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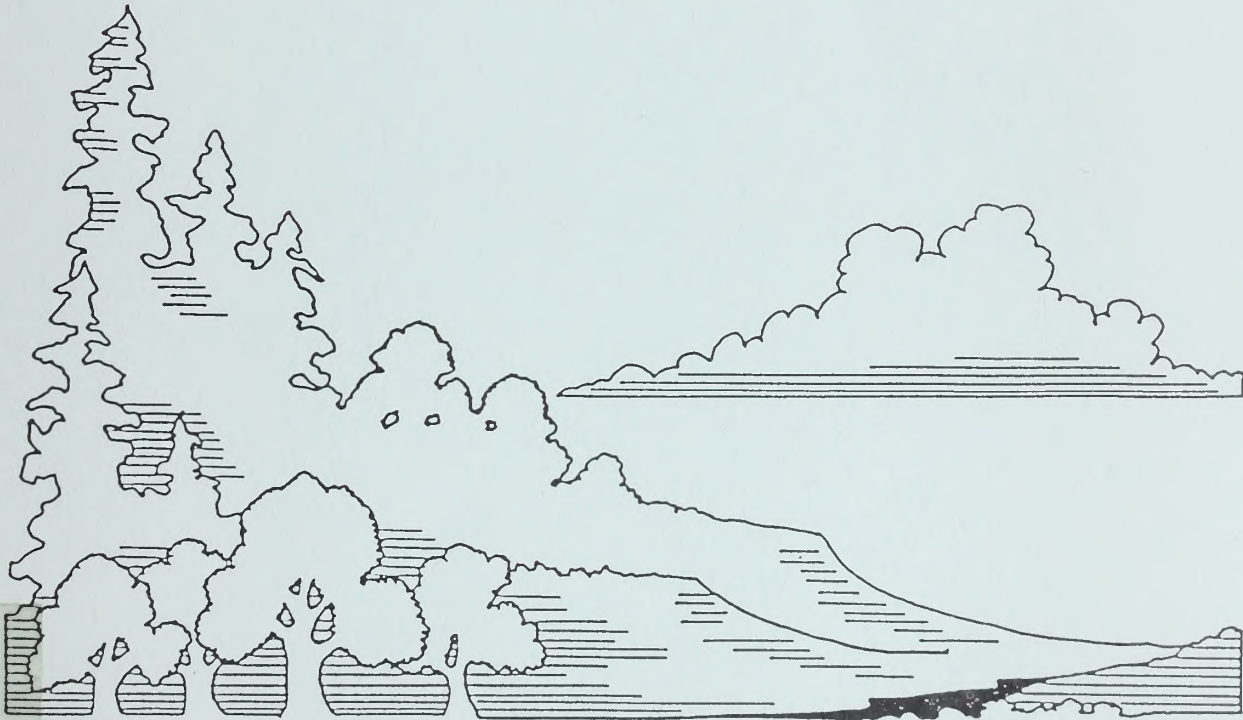
United States Department of the Interior
Bureau of Land Management

Redding Resource Area

March, 1991



Draft Redding Resource Management Plan and Environmental Impact Statement



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As the Nation's conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

BLM-CA-91-009-8322

Dear Reader:

Enclosed for your review and comment is the draft Redding Resource Management Plan/Environmental Impact Statement (RMP).

The draft RMP presents five land-use management alternatives for six management areas and four alternatives for a seventh area for the long range management of resources on public land administered by the Bureau of Land Management (BLM) within the Redding Resource Area. The document also analyzes the environmental impacts of each alternative and serves as the draft environmental impact statement of the plan. Certain streams were also assessed for their eligibility for inclusion within the National Wild and Scenic Rivers System.

You are invited to make written or oral comments on the adequacy of this document. Please be as specific in your comments as possible to ensure proper consideration and response to your concerns. Public meetings to receive oral comments are scheduled at the following California cities:

<u>Date</u>	<u>City</u>	<u>Location</u>
May 21, 1991	Chico	Holiday Inn 685 Manzanita Court
May 22, 1991	Weaverville	Lowden Park - Recreation Hall Washington Street
May 23, 1991	Redding	Holiday Inn 1900 Hilltop Drive
May 29, 1991	Red Bluff	Sun Country Fairgrounds Tehama Room Antelope Blvd.
May 30, 1991	Yreka	Yreka Community Center Theater Center 810 North Oregon Street

All meetings will begin at 7:00 p.m. and last until 10:00 p.m. BLM Resource Specialists will be available for informal discussions between 6:30 p.m. and 7:00 p.m. and any remaining scheduled time ending at 10:00 p.m.

Written comments will be accepted until the close of business on June 28, 1991. Please include your name and complete address on all written comments. Send these comments and any copies of pertinent oral testimony to Francis Berg, Team Leader, Bureau of Land Management, 355 Hemsted Drive, Redding, California 96002.

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Sincerely,
Alfred W. Wright
District Manager

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DRAFT

REDDING

RESOURCE MANAGEMENT PLAN

AND

ENVIRONMENTAL IMPACT STATEMENT

December 1990

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
CALIFORNIA STATE OFFICE
UKIAH DISTRICT
REDDING RESOURCE AREA

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11/9/90
Date

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11/16/90
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1/25/91
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RESOURCE MANAGEMENT PLAN
AND
ENVIRONMENTAL IMPACT STATEMENT

DRAFT (X) FINAL ()

The United States Department of the Interior
Bureau of Land Management

1. **Type of Action:** Administrative (x) Legislative ()
2. **Abstract:** This draft Resource Management Plan and Environmental Impact Statement describes and analyzes alternatives, including a No Action (existing management) Alternative, for managing public lands within seven analytical units (management areas) comprising the Redding Resource Area, California.
3. Comments have been requested from the individuals, groups and agencies listed in Chapter 5. Comments on this draft document must be postmarked no later than **June 28, 1991**.
4. For further information contact:

Francis Berg, Team Leader
Bureau of Land Management
355 Hemsted Drive
Redding, California 96002
Telephone: (916) 246-5325

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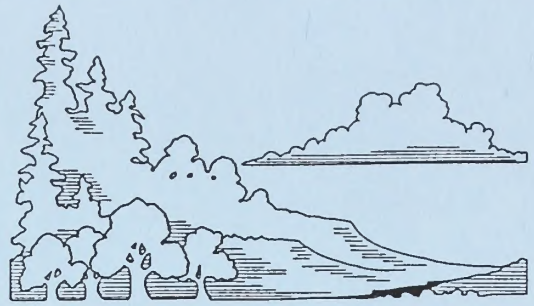
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SUMMARY

The Redding Resource Management Plan and Environmental Impact Statement (RMP) identifies the direction for the proposed management of public lands and Federal mineral estate administered by the Bureau of Land Management (BLM) within the Redding Resource Area of north central California. The Redding Resource Area encompasses approximately 247,500 acres of public land and 145,200 acres of Federal mineral estate within Butte, Shasta, Siskiyou, Tehama, and Trinity counties. Public lands administered by BLM comprise roughly 2.5% of the entire land mass within the Redding Resource Area. The Resource Area is further described in Chapter 1, DESCRIPTION OF THE PLANNING AREA.

This RMP was prepared under the guidance provided by BLM planning regulations issued under the authority of the Federal Land Policy and Management Act of 1976 (FLPMA) and in conformance with regulations established by the Council on Environmental Quality regarding the preparation of Environmental Impact Statements as required by the National Environmental Policy Act of 1970. The RMP is focused on resolving four planning issues identified through a public involvement or scoping process. These issues include: land tenure adjustment (where BLM should provide long term Federal stewardship); recreation management (where and what mixture of recreation activities should be encouraged or discouraged); access (the ability of public users to physically access their public lands), and; forest management (where should forest management be permitted given existing restrictions and changing land ownership). In addition to the planning issues, BLM required decisions regarding a number of management concerns including special designations (Areas of Critical Environmental Concern, Special Recreation Management Areas, and streams eligible for inclusion within the National Wild and Scenic Rivers System) and specific requirements of BLM planning regulations. These planning issues and management concerns are further described in Chapter 1.

To adequately address the planning issues and to properly gauge the consequences of future BLM actions or authorizations, it was necessary to describe the resources located on public land administered by BLM and the relative value of those resources in a regional sense. Chapter 2 AFFECTED ENVIRONMENT provides a synopsis of the natural and cultural resources identified by an interdisciplinary team of resource specialists

within sub-units of the Redding Resource Area termed "management areas". These management areas were established using geographic and political divisions in mind. The management areas include: Scott Valley, Klamath, Trinity, Shasta, Sacramento River, Ishi, and Yolla Bolly.

To assist decision-makers and the public in choosing appropriate solutions to the planning issues, BLM developed five generic land use management alternatives or options for application in all management areas. These alternatives include: NO ACTION (Continuation of existing approved planning guidance); ADMINISTRATIVE ADJUSTMENT; ENHANCEMENT OF NATURAL AND CULTURAL VALUES; RESOURCE USE WITH NATURAL VALUES CONSIDERATION, and; RESOURCE USE. In one management area (Sacramento River) development of a RESOURCE USE alternative was determined unrealistic and dismissed from further treatment. One alternative preferred by BLM was selected for each management area. Collectively, these preferred alternatives constitute the PROPOSED ACTION of the RMP. The PROPOSED ACTION includes the following mixture of these preferred alternatives by management area:

ENHANCEMENT OF NATURAL AND CULTURAL VALUES

Sacramento River

RESOURCE USE WITH NATURAL VALUES CONSIDERATION

Ishi, Klamath, Shasta, Trinity

ADMINISTRATIVE ADJUSTMENT

Scott Valley, Yolla Bolly

Detailed descriptions of all land use management alternatives and the rationale for selecting the PROPOSED ACTION are found in Chapter 3 MANAGEMENT ALTERNATIVES INCLUDING THE PROPOSED ACTION.

The environmental consequences of implementing each land use management alternative were analyzed by an interdisciplinary team of resource specialists. Seven significant impact topics are described in Chapter

4 ENVIRONMENTAL CONSEQUENCES. These topics of regional importance include:

- Anadromous Salmonid Habitat
- Archaeological Resources
- Deer Winter Range
- Scenic Quality
- Slender Orcutt Grass
- Spotted Owl
- Wetlands and Waterfowl

BLM actions were determined to have an effect on these resource topics in one or more management areas under at least one land use management alternative. A summary comparison of the environmental consequences to these significant impact topics due to implementing each land use management alternative within the Resource Area as a whole is depicted in Table 4-2 at the end of Chapter 4 ENVIRONMENTAL CONSEQUENCES. Many other impact topics were dismissed from detailed analysis since BLM actions would have imperceptible effects on the regional quality of these resources. These topics considered but dismissed from further analysis are discussed in Chapter 1 INTRODUCTION.

A synopsis of the most important decisions and consequences of those decisions follow. The intent is to provide the reader with a summary understanding of the land use management alternatives and significant impacts described within this RMP. This synopsis is organized by each land use management alternative for the entire Redding Resource Area. Each land use management alternative description is followed by a brief summary of the net impacts to the seven significant impact topics noted above. The order of presentation of land use management alternative is: NO ACTION; ADMINISTRATIVE ADJUSTMENT; ENHANCEMENT OF NATURAL AND CULTURAL VALUES; RESOURCE USE WITH NATURAL VALUES CONSIDERATION; RESOURCE USE, and; PROPOSED ACTION. Maps which portray all of these land use management alternatives are found in a packet accompanying this RMP. Maps which collectively portray each Redding Resource Area-wide land use management alternative are noted at the beginning of each alternative summary.

NO ACTION (Maps 3-1a, 3-3b, 3-6a, 3-7a, 3-9b)

Under this land use management alternative, BLM would continue to emphasize resource management in the Sacramento River Area, the Trinity River corridor,

and the Gene Chappie/Shasta Off-Highway Vehicle Area. Cooperative management would continue at Horseshoe Ranch Habitat Management Area, Forks of Butte Creek Recreation Area, the Upper Ridge Nature Preserve, and the Tunnel Ridge portion of the Trinity Alps Wilderness Area. BLM would provide some level of active management in Beegum Gorge, Shasta River Canyon, and scattered lands along the upper Klamath River, Battle Creek, and adjoining Lake Oroville State Recreation Area. BLM would initiate protective acquisitions in Deer Creek canyon. Most existing public lands could be available for exchange on a case-by-case basis.

Full implementation of this land use management alternative would result in public stewardship of 72 miles of anadromous salmonid habitat in key areas. Between 50 and 150 additional archaeological sites would be managed by BLM. The Whiskeytown deer herd area would have increased public ownership; however, public land ownership would decrease in the Weaverville and Hayfork deer herd areas. Scenic quality would be protected along the Trinity River corridor, Sacramento River, upper Klamath River, Forks of Butte Creek, Beegum Gorge, and within the viewshed of Whiskeytown Lake. Six known sites encompassing 7.6 acres of slender orcutt grass would be protected. Some degradation would occur on 4,798 acres of existing public land deemed suitable habitat for the northern spotted owl, and; 1,288 acres of existing habitat would be protected. BLM would continue to protect 80 acres of existing public wetlands and develop additional acreage when possible.

ADMINISTRATIVE ADJUSTMENT (Maps 3-1b, 3-4a, 3-6b, 3-7b, 3-10a)

Under this land use management alternative, BLM would continue to emphasize existing resource management in the Sacramento River Area and the Trinity River corridor. The BLM would moderately increase public stewardship beyond the existing Gene Chappie/Shasta Off-Highway Vehicle Area toward Keswick Reservoir and Spring Creek Reservoir. The Horseshoe Ranch Habitat Management Area would double in size and currently planned acquisitions would continue in the Shasta River Canyon and Forks of Butte Creek Recreation Area. Several thousand acres of public land would be transferred to the U.S. Forest Service. More than 10,000 additional acres of public land would be available for transfer to state or local government and other qualified organizations. The majority of public

land interests would be available for exchange to acquire higher public resource values elsewhere.

Full implementation of this land use management alternative would result in public stewardship of 82.5 miles of anadromous salmonid habitat in key areas. Between 50 and 650 archaeological sites (the vast majority not eligible for inclusion in the National Register of Historic Places) would be transferred from Federal administration. Up to 25,000 acres of deer winter range would be exchanged resulting in an 18 to 23% reduction of the deer population in the Weaverville and Hayfork deer herds. Scenic quality would be maintained in the Trinity River corridor, upper Klamath River, Shasta River Canyon, Forks of Butte Creek, Sacramento River area and the viewshed of Whiskeytown Lake. Six known sites encompassing 7.6 acres of slender orcutt grass would be protected. Some degradation would occur on 4,798 acres of existing public land deemed suitable habitat for the northern spotted owl; and, 1,288 acres of existing habitat would be protected. BLM would continue to protect 80 acres of existing public wetlands and develop additional acreage when possible.

ENHANCEMENT OF NATURAL AND CULTURAL VALUES (Maps 3-2a, 3-4b, 3-6c, 3-8a, 3-10b)

Under this land use management alternative, BLM would emphasize: protection of deer winter range; protection of native wetlands; protection of riparian corridors; restoration of anadromous salmonid habitat; protection/enhancement of northern Spotted Owl habitat; maintenance of scenic quality; conservation of cultural resources, and; enhancement of non-motorized recreational opportunities. Resource use would be permissible in a few areas; however, significant constraints would limit actions to those with negligible impact on natural and cultural values with local (or greater) importance. Major public land consolidation and acquisition efforts would occur in: Horseshoe Ranch Habitat Management Area; Jenny Creek; Upper Klamath River/Shovel Creek; Shasta and Klamath River Canyons; Shasta Valley wetlands; Shasta Grass Lake; Quartz Hill; the lower Scott Mountains (immediately southwest of Scott Valley); the Weaverville deer herd/Trinity River viewshed; spanning the Trinity Mountains between Lewiston and French Gulch; the Interlakes Special Recreation Management Area between Kett, Central Valley, Whiskeytown, and French Gulch; Lower Clear Creek; upper Middle Fork of Cottonwood Creek/Beegum Creek; Sunflower Flat; Sacramento River/Battle Creek/Paynes Creek; Deer Creek; Butte Creek, and; Kanaka Peak.

Full implementation of this land use management alternative would result in public stewardship of 152.5 miles of anadromous salmonid habitat in key areas. Between 250 and 350 additional archaeological sites would be protected. Up to 38,400 acres of critical deer winter range would have long-term protection in the Weaverville and Whiskeytown deer herds resulting in a 15 to 25% population increase in those herds. Scenic quality would be maintained throughout most of the public lands within the Redding Resource Area described above. Nine known sites encompassing 113.8 acres of existing public land deemed suitable habitat for the northern Spotted Owl would be protected. Up to 16,000 acres of existing wetland habitat would be purchased in Shasta Valley and Shasta Grass Lake resulting in a 15 to 25% long-term increase in waterfowl production. Between 200 and 300 acres of additional wetlands would be protected in the Sacramento River Management Area with a 60 to 80% increase in local waterfowl population.

RESOURCE USE WITH NATURAL VALUES CONSIDERATION (Maps 3-2b, 3-5a, 3-6d, 3-8b, 3-11a)

Under this land use management alternative BLM would expand the Horseshoe Ranch Habitat Management Area to benefit deer. BLM would consolidate ownership in the upper Klamath River corridor to protect river recreation and natural values. Public ownership would be increased in the Shasta and Klamath River Canyons to protect riparian and anadromous salmonid values. Major acquisitions would be made in the Shasta Valley to protect wetlands and waterfowl. Public land consolidation in the lower Scott Mountains and Quartz Hill (adjoining Scott Valley) would enhance sustained yield forestry while protecting deer winter habitat and important northern spotted owl habitat. The Trinity River corridor would be managed to protect amenity values associated with the river. Public land surrounding the Trinity River corridor (excepting the Tunnel Ridge portion of the Trinity Alps Wilderness) and spanning eastward to French Gulch would be managed principally for sustained yield forestry, deer winter range habitat, special status species protection, and dispersed recreation. The Interlakes Special Recreation Management Area between Kett, Central Valley, Whiskeytown and French Gulch would be managed for a spectrum of recreation opportunities. BLM would improve lower Clear Creek anadromous salmonid habitat and the scenic values of Clear Creek canyon (above Clear Creek Road). Three areas in western Tehama County would be managed for deer winter habitat, sustained yield forestry, special status species protection and dispersed recreation. The Sacramento River Area, Battle Creek,

Paynes Creek, Butte Creek, and Deer Creek would be managed for recreation and natural values. Several thousand acres of public land would be available for transfer to state or local government and other qualified organizations. Approximately one-fourth of existing public lands would be available for exchange for higher public values elsewhere.

Full implementation of this land use management alternative would result in public stewardship of 126.5 miles of anadromous salmonid habitat in key areas. Between 150 and 250 additional archaeological sites would be protected. Up to 38, 400 acres of critical deer winter range would have long-term protection in the Weaver-ville and Whiskeytown deer herds resulting in a 15 to 25% population increase in these herds. Scenic quality would be maintained along the Trinity River corridor, upper Klamath River corridor, Sacramento River corridor, the Shasta and Klamath Rivers Canyon, Whiskeytown Lake viewshed, Shasta Dam Scenic Drive, Muletown Road, and Butte Creek. Scenic quality would be enhanced in Deer Creek. Nine known sites encompassing 113.8 acres of slender orcutt grass would be protected. Slight degradation would occur to 4,079 acres of existing public land deemed suitable habitat for northern spotted owl, and; 2,007 acres of existing habitat would be protected. BLM would protect up to 15,000 acres of wetland habitat in Shasta Valley and between 200 to 300 acres of additional habitat in the Sacramento River area resulting in a 15 to 25% and 60 to 80% increase, respectively, in dependent waterfowl populations.

RESOURCE USE (Maps 3-3a, 3-5b, 3-6d, 3-9a, 3-11b)

Under this land use management alternative BLM would continue existing management within the Horseshoe Ranch Habitat Management Area, Shasta River Canyon, and dispersed public lands along the Klamath River. Public lands would be consolidated in Quartz Hill and upper Duzel Creek/Noyes Valley Creek/Meadow Gulch to enhance long-term sustained yield forestry. BLM would also consolidate public land ownership between Lewiston and French Gulch, surrounding a narrowed Trinity River corridor, Duncan Creek, Elkhorn/Valentine Ridges, Tedoc Mountain and Butte Creek for sustained yield forestry and dispersed recreation. BLM would moderately increase the Gene Chappie/Shasta Off-Highway Vehicle Area toward Keswick Reservoir and Spring Creek Reservoir. Several thousand acres of public land scattered through the Redding Resource Area would be transferred to the U.S.

Forest Service. BLM would consolidate public ownership within the Sacramento River/Lower Battle Creek/lower Paynes Creek to protect natural values and enhance recreational opportunities. More than 10,000 acres of public land would be available for transfer to local and state government or qualified organizations. Approximately one-third of existing public land would be available for exchange to acquire higher public values elsewhere.

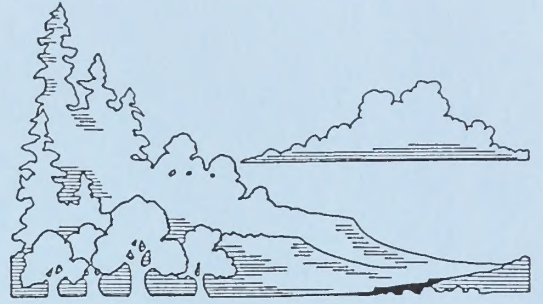
Full implementation of this land use management alternative would result in public stewardship of 69 miles of anadromous salmonid habitat in key areas. Approximately 100 additional archaeological sites would be managed in public ownership; but, significant degradation or destruction will occur to 15 important sites. Up to 25,000 acres of deer winter range would be exchanged resulting in an 18 to 23% reduction in the Weaver-ville and Hayfork deer herds. Scenic quality would be maintained in the narrowed Trinity River corridor, Sacramento River corridor, and minor public holdings in the upper Klamath River. Elsewhere, scenic quality could be degraded. Nine known sites encompassing 113.8 acres of slender orcutt grass would be protected. Moderate degradation would occur to 4,079 acres of existing public land deemed suitable habitat for northern spotted owl, and; 2,007 acres of existing habitat would be protected. Between 200 and 300 acres of additional wetlands would be protected in the Sacramento River area resulting in a 60 to 80% increase in locally dependent waterfowl. Wetlands in the Shasta Valley would continue to degrade affecting waterfowl production and wetland habitat on up to 16,000 acres.

PROPOSED ACTION (Maps 3-1b, 3-2b, 3-5a, 3-6c, 3-8b, 3-10a)

This land use management alternatives represents a mixture of the preferred alternative selected by BLM for each management area as noted in the beginning of this SUMMARY. Under this land use management alternative, BLM would double the Horseshoe Ranch Habitat Management Area to benefit deer. BLM would consolidate ownership in the upper Klamath River corridor to protect river recreation and natural values. Public ownership would be increased in the Shasta and Klamath River Canyons to protect riparian and salmonid values. Major acquisitions would be made in the Shasta Valley to protect wetlands and waterfowl. The Trinity River would be managed to protect amenity values associated with the river. Public land surrounding the Trinity River corridor (excepting the Tunnel Ridge portion of the Trinity Alps Wilderness) and spanning

eastward to French Gulch would be managed principally for sustained yield forestry, deer winter range habitat, special status species protection, and dispersed recreation. The Interlakes Special Recreation Management Area between Kett, Central Valley, Whiskeytown and French Gulch would be managed for a spectrum of recreation opportunities. BLM would improve lower Clear Creek anadromous salmonid habitat and the scenic values of Clear Creek canyon (above Clear Creek Road). The Sacramento River Area including lower Paynes Creek and Battle Creek below Manton Road would be managed for natural values, semi-primitive recreation opportunities and protection of archaeological resources. Deer Creek and Butte Creek canyons would be managed to protect natural values and provide primitive to semi-primitive recreation opportunities. Several thousand acres of public land would be transferred to the U.S. Forest Service. Over 10,000 acres of public land would be available for transfer to state and local government or qualified organizations. Approximately one-half of existing public lands, principally in western Tehama County and surrounding Scott Valley in Siskiyou County, would be available for exchange to acquire higher public values elsewhere.

Full implementation of this land use management alternative would result in public stewardship of 126.5 miles of anadromous salmonid habitat in key areas. Between 100 and 300 additional archaeological sites would be protected. Up to 38,400 acres of critical deer winter range would have long-term protection in the Weaver-ville and Whiskeytown deer herds resulting in a 15 to 25% population increase in those herds. Scenic quality would be protected in all areas with public land currently in Visual Resource Management Classes I and II. Elsewhere long-term scenic quality would be maintained or, as in Deer Creek and Butte Creek, enhanced. Nine known sites encompassing 113.8 acres of slender orcutt grass would be protected. Slight degradation would occur to 4,079 acres of existing public land deemed suitable habitat for northern spotted owl, and; 2,007 acres of existing habitat would be protected. BLM would protect up to 15,000 acres of wetland habitat in the Shasta Valley and between 200 to 300 acres of additional habitat in the Sacramento River area resulting in a 15 to 25% and 60 to 80% increase, respectively, in dependent waterfowl populations.



CHAPTER 1

INTRODUCTION

The Redding Resource Management Plan/Environmental Impact Statement (RMP) will guide the Bureau of Land Management's (BLM) management of 247,500 acres of public land and an additional 142,400 acres of Federal mineral reserve estate (split estate) within the Redding Resource Area of northern California. Sections 102 and 202 of the Federal Land Policy and Management Act (FLPMA) require the Secretary of the Interior to develop land-use plans for all public land under the administration of BLM. This RMP conforms to FLPMA, the planning regulations of BLM found in Title 43, Part 1600 of the Code of Federal Regulations, and the regulations of the Council on Environmental Quality in Title 40, Part 1500 of the Code of Federal Regulations requiring the preparation of an Environmental Impact Statement (EIS) on significant Federal actions including land use plans in conformance with the National Environmental Policy Act.

PURPOSE AND NEED

The primary purpose of this RMP is to update and integrate BLM land use planning for the Redding Resource Area into a single, comprehensive land-use plan. The approved or final RMP will update and replace the 1982 Redding Management Framework Plan for the Redding Resource Area. This RMP will provide the overall direction for managing and allocating public land resources and uses in the Redding Resource Area over the next 15 years.

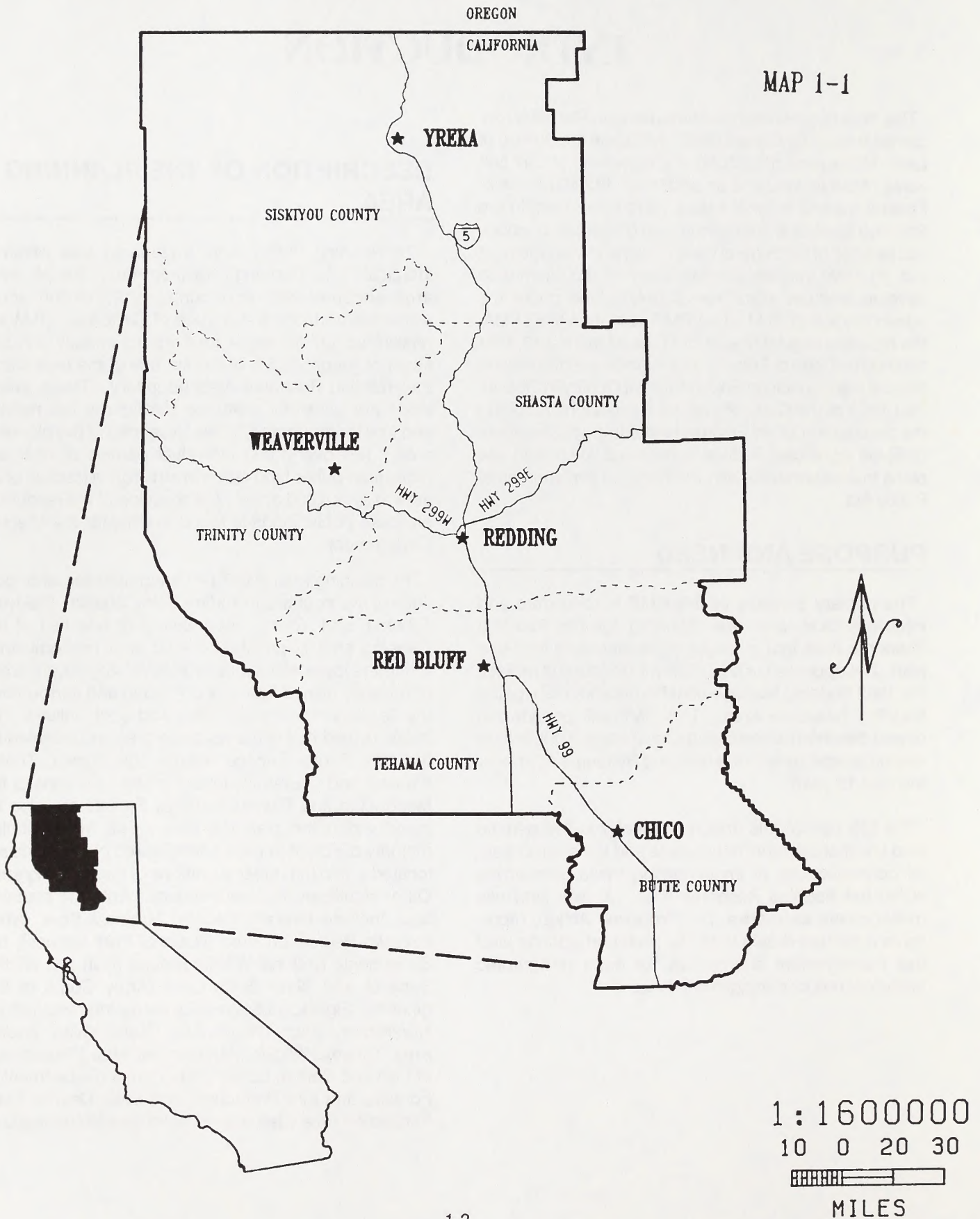
The EIS part of this document analyzes five generic land use management alternatives and the environmental consequences of implementing these alternatives within the Redding Resource Area. A sixth land use management alternative, i.e., Proposed Action, represents a mixture drawn from the preferred generic land use management alternatives for each geographic analytical unit or management area.

DESCRIPTION OF THE PLANNING AREA

The Redding RMP covers a planning area which is identical to the Redding Resource Area. The planning area encompasses approximately 9,914,000 acres within the north central portion of California. BLM administered public lands total approximately 247,500 acres or roughly 2.5% of the surface of the area within the Redding Resource Area boundary. These public lands are generally scattered throughout the middle, and to a lesser degree, lower elevations of the planning area. The over 1,000 individual parcels of BLM administered public land range in size from a fraction of an acre to over 8,000 acres. A discussion of the resources on these public lands is found in Chapter 2 - Affected Environment.

The planning area (MAP 1-1) encompasses all or portions of five counties including Butte, Shasta, Siskiyou, Tehama, and Trinity. Approximately one half of the planning area is privately owned land predominantly within the lower elevations or valleys. Significant areas of privately owned interests are within and surrounding the Sacramento, Shasta, Butte, and Scott valleys. The public owned half of the resource area is dominated by the U.S. Forest Service notably the Shasta, Trinity, Klamath and Lassen National Forests. Portions of the Mendocino and Plumas National Forests are also located within the planning area. The overwhelming majority of Forest Service administered public lands are located within the upper elevations of the planning area. Other significant Federal interests within the planning area include Lassen Volcanic National Park, Whiskeytown Recreation Area (National Park Service), the Sacramento National Wildlife Refuge (Fish and Wildlife Service) and Black Butte Lake (Army Corps of Engineers). Significant State of California interests include Horseshoe Ranch Wildlife Area, Butte Valley Wildlife Area, Tehama Wildlife Management Area (Department of Fish and Game), Latour State Forest (Department of Forestry and Fire Protection) and Lake Oroville State Recreation Area (Department of Parks and Recreation).

RESOURCE / PLANNING AREA LOCATION



Major population centers within the planning area include Redding and Chico. Redding is the job and service center for an urban area of 110,000 persons and the trade area for about 200,000 persons, including the towns of Red Bluff, Weaverville, Mount Shasta, and Burney. Chico is the job and service center for 80,000 persons and the trade area for over 120,000 persons. Yreka, the county seat of Siskiyou County, is the job and service center for roughly 10,000 persons and the trade area for over 40,000 persons.

Recreation, timber, and agricultural activities provide a significant majority of income to regional residents. Governmental employment, services, industry and retail are other notable contributions to the economic foundations of the planning area. The planning area has regional importance to tourists serving both California and an interstate population. Certain features like Mount Shasta, the Trinity Alps, the Trinity River, the Sacramento River, and Lassen Volcanic National Park attract visitors from the entire nation, and to a lesser extent, other nations.

PLANNING PROCESS OVERVIEW

The BLM resource management planning process consists of nine steps, as described below:

Step 1: Issue Identification

This planning step is designed to identify major problems, concerns or opportunities associated with the management of public land in the RMP area. Issues are identified by the public, the BLM and other governmental entities. The planning process is focused on resolving the identified planning issues which are explained on the next page of this document.

Step 2: Planning Criteria

Planning criteria are policies, laws, regulations and guidelines for resolving issues, developing alternatives and choosing a proposed plan.

Step 3: Inventory and Data Collection

This step involves the collection and assembly of certain kinds of biological, physical, social or economic information needed to resolve the planning issues. The inventory information is used in determining how the public land resources will respond to each of the alternatives. A synopsis of these findings is found in Chapter 2, AFFECTED ENVIRONMENT, of this RMP.

Step 4: Analysis of the Management Situation

The Management Situation Analysis identifies the ways the BLM currently manages the planning area's public land and identifies opportunities to better manage this public land.

Step 5: Formulation of Alternatives

At this point, the BLM formulates a range of land-use alternatives for managing the resources in the RMP area. The range of alternatives are developed to resolve the significant planning issues and to address specific management concerns in the RMP area. This range of alternatives is applied to each geographic analytical unit or management area. Chapter 3 of this RMP consists of these land-use management alternatives.

Step 6: Estimation of Effects

This step involves estimating the environmental effects of implementing each of the alternatives. The effects are estimated in order to allow for a comparative evaluation of impacts in each management area. Chapter 4 of this RMP discusses the environmental effects of alternative implementation.

Step 7: Selection of the Preferred Alternative

Based on information generated during Steps 1 through 6, the BLM identifies a preferred alternative or proposed action. The draft RMP is then prepared and distributed for public review. We are presently at this point in the RMP process. The preferred alternative for each management area is identified in Chapter 3 of this RMP. Collectively, the preferred alternatives for all management areas comprise the Proposed Action.

Step 8: Selection of the Resource Management Plan

Based on the results of public review and comment, received during a ninety-day review period, the BLM will select a proposed Resource Management Plan and publish it with a final Environmental Impact Statement (EIS). A final decision is made after a 30-day appeal period following the EIS publication.

Step 9: Monitoring and Evaluation

This step involves the collection and analysis of long-term resource condition and trend data to determine the effectiveness of the plan in resolving the identified issues

and to assure that implementation of the plan is achieving the desired results. Monitoring continues from the time the RMP is adopted until changing conditions require a revision of the whole plan or any portion of it.

PLANNING ISSUES

Planning issues are the major concerns with the management of BLM administered public land within the Redding Resource Area. These issues drive the entire RMP process since all the land-use management alternatives described in Chapter 3, MANAGEMENT ALTERNATIVES INCLUDING THE PROPOSED ACTION, are designed to address these issues. The environmental consequences addressed in Chapter 4 are the probable results of implementing any given land use management alternative as a solution to the planning issues.

The RMP planning team consisting of resource specialists, named in the LIST OF PREPARERS in this document, used a scoping process to identify the planning issues. This scoping involved interagency coordination, interdisciplinary brain-storming, and direct public input. Open public meetings were held in Redding (2/13/89), Red Bluff (2/15/89), Chico (2/21/89), Yreka (2/23/89), and Weaverville (2/27/89) to help BLM identify the major concerns of the public. BLM also encouraged and received letters and calls from the public to further define these concerns. Subsequent analysis of public and interagency input by BLM staff defined four planning issues which encompass the majority of concerns for management of BLM administered public lands. These issues include land tenure adjustment, recreation management, access and forest management.

LAND TENURE ADJUSTMENT

The Redding Resource Area consists of more than a thousand individual parcels of public land, scattered through five counties in northern California. Many of these parcels are isolated and have no legal, or in some cases, physical access. Providing adequate management of the resources and public uses of such parcels is in many cases either impossible or prohibitively expensive.

There is a strong demand around cities and other communities for public facilities, urban development and individual needs, plus the infrastructure necessary for these items to function. Other Federal and State agencies, plus Native American Indian groups and private conservation groups have in the past indicated

needs for public land to supplement their programs. The thrust of this issue is to identify land needed to meet public needs that the BLM should acquire through purchase, exchange, or donation. In addition, resolution of this issue will lead to the identification of isolated, difficult to manage, low resource value parcels which may be exchanged for other land within the Redding Resource Area having greater public benefits. A secondary goal is to identify land best suited for transfer to other Federal agencies, State agencies and local governments. Finally, land not needed by other agencies, unsuited for use in exchange programs and difficult or uneconomic to manage by the BLM, may be identified for disposal through sale authorities.

RECREATION MANAGEMENT

The demand for public lands for outdoor recreation uses continues to increase in both intensity and diversity throughout the Redding Resource Area. In many places public lands provide the only readily accessible opportunities to pursue wildland recreation opportunities. Most counties and communities rely upon public lands to fulfill the "Open Space" requirements of the recreation elements of their general plans, and these "Open Space" areas play a role in the economic and social health of northern California residents. Through the services provided under the BLM recreation programs, the general public is gaining an understanding and acceptance of BLM management practices, land use opportunities and constraints, and an appreciation of the value of the public lands to them on a personal level. Some recreational uses of the public lands either compete or conflict directly with other recreational uses or non-recreational uses allowed under the public land laws. The challenge under this issue is to provide for recreation opportunities, while resolving conflicts among recreationists and between recreationists, other legitimate public land users, or resource values sensitive to certain types of recreational uses.

ACCESS

Due to the BLM's scattered ownership pattern, the subject of acquiring access is becoming a concern throughout the Redding Resource Area. In many areas the public has been excluded from using public land because surrounding landowners have restricted physical access and the government has no legal access. Historically, the main thrust of the access program has been in support of the forest management program. This was due to the demand for forestry resources and very little competing demands being expressed by the

public. However, in recent years the need to "get away" has placed a higher demand for access to all public lands for various recreational activities.

The emphasis of this Issue will be to determine where access rights should be acquired for the general public as well as for administrative management purposes. In most cases, access is considered in the land-use management alternatives through land acquisition and consolidation. Specific access routes are not recommended although access is presumed necessary to implementation to the RMP.

FOREST MANAGEMENT

The current forest management program in the Redding Resource Area is directed by the Sustained Yield Unit-15 Environmental Assessment of 1981 (SYU-15), which identifies the available commercial forest land (location and acres) and specifies the allowable sale quantity. The available commercial forest land includes public lands which cannot be harvested at all or as intensively as anticipated in SYU-15 because of constraints on forest management practices such as Visual Resource Management restrictions along Wild and Scenic Rivers, herbicide use restrictions, special status species, plant and animal habitat requirements, and loss of available commercial forest because of land exchanges. These restrictions placed on forest management by other resource uses and management, and changes in BLM direction due to and public demand, make it desirable to examine the current program.

The emphasis of this issue will be to determine which land should be managed for commercial timber production and the management intensity on this land. From these determinations a new allowable sale quantity will be established.

MANAGEMENT CONCERNS

In addition to those decisions made to resolve the planning issues, BLM uses the RMP process to make other decisions to resolve management concerns. Many of these decisions are required through Supplemental Program Guidance (BLM Manual 1620) and California BLM State Director Guidance. A few decisions are made to address management situations especially applicable or unique to the planning area. These decisions or management concerns are treated in Chapter 3, Management Alternatives, within the context of an individual land-use management alternative or

as they apply across all management alternatives, i.e. Management Guidance and Decisions Common to all Alternatives.

A list of some of the more significant decisions include: designation of Areas of Critical Environmental Concern (ACEC), designation of Special Recreation Management Areas, designation of corridors for portions of the Klamath, Trinity, and North Fork Trinity Rivers as existing Recreational components of the National Wild and Rivers System, determinations of eligibility (and preliminary classification) for inclusion of specific streams in the National Wild and Scenic Rivers System, motorized vehicle use designations, determinations of Recreation Opportunity Spectrum (ROS) settings to be maintained, establishment of Visual Resource Management (VRM) classes, establishment of community pits for mineral materials, designation of major rights-of-way, closure of areas to livestock grazing, and identification of activity plans needed to implement the approved RMP.

IMPACT TOPICS

Implementation of any land use management alternative will have effects on the natural and social resource values within the planning area. Chapter 4, Environmental Consequences, assesses the impacts to certain resources which are considered important or significant. These significant impact topics include:

Anadromous Salmonid Habitat

Archaeological Resources

Deer Winter Range

Scenic Quality

Slender Orcutt Grass

Spotted Owl

Wetlands and Waterfowl

A full discussion of the positive and negative impacts to these significant topics is detailed in Chapter 4 by individual land use management alternative within the entire Redding Resource Area, i.e., the sum of all management areas. The combination of preferred land-use management alternatives or Proposed Action, is also evaluated for impacts in Chapter 4.

IMPACT TOPICS CONSIDERED BUT DROPPED FROM FURTHER ANALYSIS

Other natural and social resource values which may be affected by implementation of any land use management alternative are determined to be insignificant impact topics. These topics are not fully analyzed within this RMP. Rationale for not addressing these insignificant impact topics accompany an alphabetical listing of these resource management concerns.

Also included in this section are determinations made in this plan. BLM planning guidance requires that certain decisions be made during the RMP process unless: they are derived from other decisions, the resource is not present, or if a determination would be premature. As applicable these reasons are stated within this section or Management Guidance Common to All Alternatives in Chapter 3.

AGRICULTURE

Existing public lands in the Redding Resource Area contain no prime agricultural soils and are generally unsuitable for agriculture. Land use management alternatives do not recommend conversion of agriculturally suitable soils to a natural condition nor the elimination of agricultural production within the planning area.

AIR QUALITY

Public lands administered by BLM account for less than 2.5% of total acreage within the planning area. Uses on public land are generally short term with little or no impact on the quality or condition of the air. All activities approved or authorized by BLM would necessarily conform with the Federal Clean Air Act, BLM policies (refer to MANAGEMENT GUIDANCE AND DECISIONS TO ALL ALTERNATIVES in CHAPTER 3), State of California air quality standards and rules, as well as local regulations.

FOREST AND WOODLAND MANAGEMENT

The BLM manages approximately 1% of the commercial forest land within the area and provides less than 0.4% of the annual timber harvest within the planning area. Any impact to the regional economy is insignificant. Any changes caused by implementing any land-use management would not appreciably alter this minor contribution. Moreover, forest management

practices in all land-use management alternatives must conform with the Timber Management Environmental Assessment for Sustained Yield Unit 15. No changes to the existing approved management practices are considered except for the northern spotted owl and Wild and Scenic Rivers as discussed in Chapter 3, Management Guidance and Decisions Common To All Alternatives.

FUELS MANAGEMENT

Fuels management including reduction of fire prone vegetation through burning or crushing is conducted at specific locations to protect property values, safeguard human life, or to facilitate establishment of a desired plant community. Each action is assessed individually for any possible impact related to project implementation. No decisions regarding proposed treatment areas are made under any land use management alternative.

HAZARDOUS MATERIALS

No decisions regarding disposal, storage, or treatment of hazardous materials are made in any land-use management alternative of this RMP. Additionally, decisions in this RMP do not authorize the creation, storage, or disposal of hazardous materials. Present BLM involvement with hazardous materials in the Redding Resource Area is limited to removal of hazardous materials inadvertently placed or illegally dumped on public lands, i.e., without authorization or approval by the BLM. Prior to the approval or authorization of a proposed project, BLM will determine if the project will create a hazardous material and assess appropriate storage and disposal needs.

HYDROELECTRIC DEVELOPMENT

Hydroelectric development is not considered to be a significant impact topic because determinations for hydroelectric development are unchanged in all management alternatives. Waterpower and storage projects are permitted and regulated by the Federal Energy and Regulatory Commission (FERC). Those components of any hydroelectric or water storage projects occurring on public land require a BLM right of way. Granting of such a right of way is a discretionary action and the BLM's authority to issue such a right is separate and distinct from FERC's permitting authority. No public land-use management alternative considers closure or availability of streams to hydroelectric projects. The eligibility determinations of potential components of the National Wild and Scenic Rivers System (NWSRS) will significantly affect future hydroelectric

developments on public lands, but the eligibility determinations do not vary by management alternative. Rivers determined to be eligible for inclusion in the NWSRS will be subject to interim management as components of the NWSRS. This will preclude any new dam construction or hydroelectric development which alters free flowing or outstandingly remarkable characteristics. Assessment of impacts to hydroelectric development is deferred to studies of suitability for inclusion of these streams in the NWSRS.

LIVESTOCK GRAZING

Grazing lessees currently use 51,200 acres of public lands for grazing of livestock on 59 leases. This means that only 1/5 of the BLM-administered lands within the Redding Resource Area are being utilized, reflecting the amount of suitable range that is available. The majority of the lessees (71%) consist of small operators which utilize less than 100 animal unit months (AUMs), with the remaining (29%) utilizing from 100 to 500 AUMs per lease. Redding Resource Area yearly production on public lands is 1,174 head of livestock, which is less than 1% of the total production (143,906 head) within the planning area boundary. Alternatives to increase or decrease grazing would have little significance in respect to the economy of these areas or the availability of suitable rangeland.

LOCAL AGENCY REVENUES

Presently BLM makes annual payments in lieu of taxes to counties containing BLM administered public land. Although substantial land tenure adjustments are recommended in some land-use management alternatives, overall Federal acreage within the individual counties will show little change. Four percent of the receipts from timber sales on BLM-administered public lands are made available to state and local government. This sum is insignificant since BLM contributes less than 0.4% of total timber production within the planning area.

MINERALS DEVELOPMENT

Impacts to mineral exploitation are shown as the number of acres in the management areas and in the Redding Resource Area, by land-use management alternative, which are either "open", "open with no surface occupancy", or "closed" to mineral exploration and development. This quantitative portrayal is required by BLM policy to be included in this RMP. Appendix F

contains this analysis for locatable minerals, leasable minerals and mineral materials.

Leasable Minerals Development

Fluid leasable minerals development is considered to be an insignificant impact topic. This is based on the following: lack of any past or current production on public land, small number (2) of oil and gas exploration wells ever drilled on public lands, lack of any geothermal exploration drilling, very limited amount of public lands and mineral estate in the Sacramento Valley which have high or moderate natural gas potential, and non-discretionary closures amounting to no more than 4,000 acres in any of the land-use management alternatives. The reasonable foreseeable development scenarios for geothermal and oil and gas development are just as likely to occur regardless of which alternative is selected. This is due to the facts that most public lands with moderate or high potential will remain open to leasing land and that greater opportunities for development have and will occur on private lands within the Redding Resource Area. These opportunities are due to the much larger percentage of private lands and the existence of proven natural gas fields in the Sacramento Valley on private land.

Locatable Minerals Development

Locatable mineral development is considered an insignificant impact topic because of the general lack of production, limited number of mining claims, small number of 43 CFR 3809 notices and plans of operation filed, and general lack of restrictions on locatable mineral development. The number of mining claims within the confines of the Redding Resource Area, including U.S. Forest Service managed lands, is approximately 21,800.

Negative impacts to locatable mineral development consist of withdrawals and land classifications which permanently prohibit new mining claims and associated mineral exploitation on the affected lands. These mineral withdrawals and classifications are enacted to protect other resources and land uses from the non-discretionary effects of locatable mineral development and patenting. The total acreage of public lands and mineral estate closed to claim location, by mineral potential, will be the measure of the impact on locatable mining in each alternative. These closures can be either discretionary, such as recreation or improved facility withdrawals, or they can be non-discretionary, such as designated wilderness areas.

There is little significant difference in the amount of existing public land withdrawn between the no action alternative and the proposed action. With the exception of certain areas and placer gold mining, this will mean that locatable mineral development in the Redding Resource Area will not be significantly affected by the decisions of this RMP. Placer mining for gold along the Trinity and Klamath Rivers and along Butte Creek, will be somewhat restricted on public lands not currently claimed. A recreational mineral collection system, much like the one currently in place along portions of Butte Creek, is planned for these water courses. This will reduce much of the impact to placer mining through a more highly regulated process of placer gold collection.

Existing and proposed mineral withdrawals do not directly affect existing mining claims. Mining claims which are "grandfathered", that is, located before the land is withdrawn, continue to give the claimant the same rights that existed prior to the withdrawal. However, failure to record yearly proof of labor (assessment work affidavit), in accordance with Section 314 of FLPMA, results in mining claims automatically becoming null and void. If this occurred to a claim on withdrawn land, the claimant would not have the opportunity to re-locate his claim. Mining claims which are not valid due to a lack of a discovery of a valuable mineral deposit at the date of the withdrawal, cannot become valid later on by making a post-withdrawal date discovery.

Temporary segregations for land tenure adjustment are not considered a significant impact on locatable minerals. Most land disposals identified in this RMP will be via exchange for other lands. In many, if not most, instances, the land the BLM acquires in an exchange will be open and available for locatable mineral mining.

Land use decisions and classifications which result in mining operations having to submit a Plan of Operation rather than a Notice (see Federal Regulations at 43 CFR 3809), are not considered to be significant impacts on locatable mineral development. Mineral exploration and extraction may still occur wherever the miner chooses, but the BLM will more thoroughly review mining proposals, develop necessary reclamation and mitigation measures, and require the miner to post a reclamation bond.

Positive impacts to locatable mineral mining consist of: terminating some existing mineral withdrawals and classifications, leaving public lands open to mineral location, acquisition of new public lands which will be available

for mineral entry, road construction by the BLM which provide physical access to public land, and the acquisition of public access to public lands currently with no legal access.

Mineral Materials Development

Mineral materials development is not considered to be a significant impact topic within the Redding Resource Area because of the historic low demand for these mineral resources, and much greater abundance and extraction of similar deposits on private lands. Over the last ten years the Redding Resource Area has sold or given away an average of approximately 5,200 tons per year, appraised at an annual average value of \$2,000.00. This amounts to less than 1/2 of 1% of the total mineral material production within the confines of the Resource Area. There are no known market areas within the Redding Resource Area which are significantly dependent upon obtaining mineral materials from public land.

There are few closures of land to mineral material development in any of the land-use management alternatives. Most public lands will be considered open to development, subject to varying degrees of constraints, and after being examined on a case-by-case basis. However, BLM policy requires that this RMP identify areas that are or will be closed or open to mineral material disposal. Acreage by mineral potential, management area, and land-use management alternative are shown in Appendix F.

OAK WOODLANDS

Californians are increasingly concerned about the continued health of native oak woodland communities, i.e., Foothill Woodlands, Northern Oak Woodlands, and Great Valley Riparian Forest/Valley Oak Woodlands. Although some land-use management alternatives have recommendations (principally land tenure adjustment) which may affect some woodlands, significant woodlands would not be altered. Shifts in public land ownership would result in management of a minute fraction of these woodland communities.

OPEN SPACE

Open space has been dismissed as a significant impact topic because it is anticipated that through the planning horizon no more than one to three thousand acres of public land will be converted to uses or developments which eliminate open space uses entirely. These affected lands are situated in and around the cities of

Redding, Weaverville, and Hayfork, where the local governmental jurisdictions will be responsible for providing for open space areas. Provision of open space opportunities within such areas, where another governmental entity is responsible, would be inconsistent with BLM's mission. The affected public lands will be available to other governmental jurisdictions for provision of open space opportunities prior to any disposition through exchange or sale. For these reasons, it was determined that open space would not be an appropriate significant impact topic in the Redding RMP.

PALEONTOLOGY

One area within the planning area contains important ammonite fossils. A fraction of this fossil bearing area may include public lands. No action proposed by BLM would enhance or deter research of these molluscs. BLM is unaware of any present or recent research within this fossil bearing area.

RIPARIAN

No land-use management alternative contains recommendations to degrade or transfer from public stewardship significant riparian habitat, e.g., Sacramento River, Trinity River, Shasta River, and Klamath River. Loss of any riparian habitat is offset by acquisition and improvement of creeks tributary to these major rivers. In all cases, BLM portions of these important habitats are restricted to a very small percentage of the total.

SPECIAL STATUS SPECIES

With the exception of slender Orcutt reed grass (*Orcuttia tenuis*), no land-use management alternative affects a significant amount of habitat of any special status plant or animal species (Refer to Appendix D for listing of these species). Due to current public interests, the northern spotted owl (*Strix occidentalis caurina*), a threatened species, is also being analyzed as a significant impact topic. BLM policy ensures that special status species are considered in context of any authorization. The Endangered Species Act obligates BLM to protect threatened and endangered species. BLM policy also mandates that no species become listed due to BLM authorizations. Therefore, no other species will be analyzed further due to BLM policy designed to protect special status species, limited public concern regarding any particular species on public land,

and limited BLM administration within the range of current special status species.

SOCIOCULTURAL VALUES

Most concerns expressed by Native American Indians during the issue identification or scoping phase of this RMP process involved access to sites with local heritage value, protection of these heritage sites, and ownership of public lands.

A common theme in all land-use management alternatives is to enhance access to public lands for the public, including the members of local Native American Indian groups. All alternatives will enhance the ability of Native American Indians to access and utilize public resources. Furthermore, BLM is obligated under Federal law (as stated in the American Indian Religious Freedom Act) to protect and preserve the rights of native peoples to believe, express, and exercise their traditional religious beliefs. This policy and mandate applies equally to all land use management alternatives.

Although tribal or individual ownership of public lands is a concern to many contemporary Native American Indians, BLM has no authority or mechanism to transfer public lands either directly to native peoples or to the fiduciary responsibility of the U.S. Bureau of Indian Affairs. Moreover, all public lands are considered unsuited for agricultural entry including applications under the Indian Allotment Act. BLM has identified specific parcels which appear suitable for community development purposes as reservations for Federally recognized tribes. These parcels were identified by BLM in cooperation with the tribes and the Bureau of Indian Affairs. It is the responsibility of the tribes to develop legislation for the intra-departmental transfer of these public lands. BLM will maintain administration of these lands until legislation is approved by the U.S. Congress or at least five years after the approval of the Final RMP.

SOILS

No proposed land use allocations would significantly degrade nor remarkably improve soils stability and condition within the planning area. Any possible impact to soils would be considered prior to BLM approval or authorization of any surface disturbing activity. All activities would still continue to comply with the Federal soil conservation authorities, BLM soil resources management policies, State of California soil conservation standards and rules, as well as local regulations.

TRANSPORTATION SYSTEMS

No recommendations are made under any land use management alternative which would result in a necessary modification of county, state, or interstate transportation routes.

UTILITY CORRIDORS AND COMMUNICATIONS SITES

All land-use management alternatives incorporate the occupied corridors identified in the 1986 Western Regional Corridor Study. BLM administered public land is an insignificant component within these developed and approved major rights of way. Any change in public land ownership administered by BLM would neither improve nor constrain the use or development of utility corridors. Moreover, only two commercial communication sites (South Fork Mountain near Redding and Antelope Mountain near Yreka) are located on BLM administered public lands. Given the amount of suitable sites in the planning area, BLM administration of commercial communication sites is unimportant.

WATER QUALITY

This topic has significant public interest within the Planning Area and the nation. The decisions made in this RMP, however, will have no significant negative impact on regional water quality, quality of municipal water supplies, or degradation of any particular watershed. No determinations are made in this RMP regarding acid mine drainage, i.e., point-source heavy metal contamination, since the California Regional Water Quality Control Board and the U.S. Environmental Protection Agency are already focusing considerable energy on resolving this problem.

The highly scattered existing public lands comprise a minor fraction of virtually any watershed within the Redding Resource Area. Under some land-use management alternatives, however, BLM recommends acquisition of riparian areas, watersheds, and wetlands. One resource objective common to these acquisitions is to maintain or improve water quality. In the Shasta Valley (KLAMATH MANAGEMENT AREA) for instance, BLM proposes to acquire significant acreage and intends to reduce existing sedimentation acreage and nitrate contamination of the native wetlands and a por-

tion of the Shasta River. Since BLM presently administers only forty acres of public land within this approximately 25,000 acre area, we have no baseline data available to confidently measure the anticipated improvement in water quality. In keeping with the guidelines of the Council on Environmental Quality (Title 40 Code of Federal Regulations, Section 1502.22), BLM was determined to have insufficient base data to provide an adequate analytical assessment of these expected positive or beneficial impacts.

WILD HORSES AND BURROS

Portions of two wild horse herds, McGavin Peak and Pokegama, occur in the Redding Resource Area. The McGavin Peak Herd consists of approximately 15 adult animals. BLM administers approximately 520 acres of public land within the 144,960 acres comprising the Pokegama Herd Management Area. Decisions regarding forage allocation and herd management are found in the Pokegama Herd Management Plan prepared by the Medford (Oregon) District Office of BLM and in the 1983 Draft Klamath National Forest Land and Resources Management Plan - Environmental Impact Statement. No further decisions are required concerning these herds.

Wild burros do not occur within the Redding Resource Area. Therefore, no determinations are needed regarding their management.

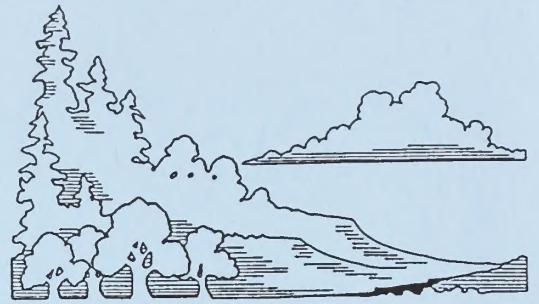
WILDERNESS

Portions of two designated wilderness areas (Trinity Alps and Ishi) include public lands administered by BLM. No changes to these designations are considered in this RMP. One wilderness study area comprising 640 acres adjoining the Yolla Bolly wilderness area is located within the planning area. This parcel of public land has been recommended as unsuitable for inclusion in the National Wilderness System. BLM is awaiting the conclusive determination of the U.S. Congress on this recommendation. Until this determination is made protection of this section of public land is afforded under the interim management guidelines of BLM for Wilderness Study Areas. No other areas are considered for wilderness designation as the remaining public lands do not meet the Section 2(c) criteria of the Wilderness Act of 1964.

WILDLIFE HABITAT

With the exception of deer winter range, anadromous salmonid habitat, and native wetlands habitat in portions of the Redding Resource Area, BLM administers an in-

significant fraction of upland game, avian, or resident fisheries habitats. No land-use management alternative would have a local or greater impact on these habitats.



CHAPTER 2

AFFECTED ENVIRONMENT

INTRODUCTION

Chapter 2 presents a description of the social, economic, and physical components of the environment which are found in the Redding Resource Area.

The first six general discussions in the overview below are presented to better understand the operating environment, significance of resources, the public concern about access, recreation management, forest practices, and management of scattered tracts. Following these discussions are descriptions of the resources found in each management area. Refer to Map 2-1 for the location of each management area.

OVERVIEW

LAND TENURE

The Redding Resource Area includes the public land and Federal mineral ownership managed by BLM in Shasta, Tehama, Butte, Trinity and Siskiyou counties. Included are 247,500 acres of public land, plus an additional 145,200 acres of split estate land, i.e., land with non-Federal owned surface and Federally owned minerals. A quick glance at a land status map for the Redding Resource Area clearly indicates the complex nature of the pattern of land ownership. The public lands are widely scattered throughout the five county area in over 1000 individual parcels of land. Tracts range in size from over 8,000 acres to less than one acre.

The history of public land management explains the origin of the dispersed pattern. The land currently managed by BLM is, for the most part, Federal land left after years of disposal of public domain through various laws, withdrawals for National Forests and reclamation projects, patented mining claims, and transfers to local governments for public projects.

The scattered land pattern has impacted private citizens, local communities, state agencies, and other Federal land management agencies. In many cases, small tracts of public land are considered important for open space, mineral development, wildlife habitat,

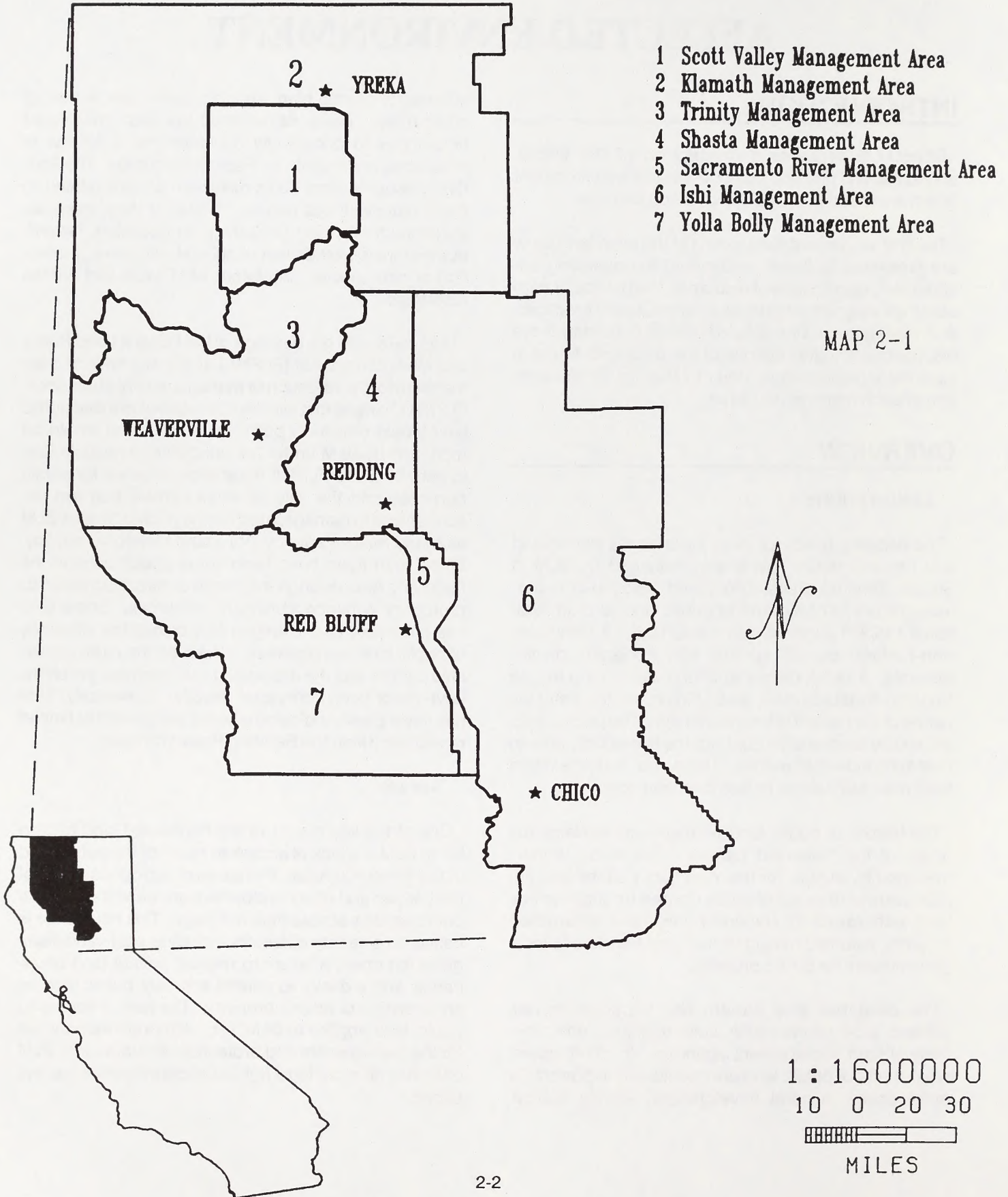
refuges for scarce plant species, parks, and a host of other uses. These same lands are also considered hindrances to community development, a source of nuisances, and a drain on Federal resources. The Redding Resource Area deals daily with actions related to these multiple focus parcels. Rights of Way, trespass, illegal trash dumping (including, on occasion, hazardous materials), vandalism of cultural resources, protection of rare species, all absorb BLM fiscal and human resources.

Until 1976, and the passage of the Federal Land Policy and Management Act (FLPMA), there was never a clear mandate for the retention or management of public land. FLPMA changed that with the clear statement that public land would remain in public ownership and would be managed by BLM under the principles of multiple use. In part, because FLPMA does allow disposal for public purposes and the sale of small parcels that are uneconomical to manage, much of the public still sees BLM as a land holding agency, not a land managing agency. Since 1976 there have been some acquisitions in the Resource Area through exchange or direct purchase to protect or enhance significant resources. Some land has been sold or exchanged to increase the efficiency of public land management. However, the basic ownership pattern and the associated management problems have never been addressed directly. Conversely, BLM has never clearly indicated where it will commit its limited resources within the Redding Resource Area.

Access

One of the key results of the haphazard land pattern left to BLM is a lack of access to much of the public land in the Resource Area. Private land surrounds many of the parcels and often landowners are unwilling to allow public access across their holdings. This reluctance is based on a variety of factors including past vandalism, gates left open, a failure to respect private land boundaries, and a desire to control adjacent public land as an extension of private property. The lack of access to public land applies to BLM, too. Although responsible for the management and protection of public land, BLM often has no more legal right to access than the general public.

MANAGEMENT AREA LOCATIONS



This situation is extremely frustrating to people wishing to use their public land. In every public meeting held for this RMP, and in many of the written comments received during the scoping phase, this issue was raised and action demanded. At the same time a number of individuals expressed concern over the problems created for adjacent private landowners by the use of public land.

RECREATION

Recreation is fast becoming a cornerstone of the economy of the North State. The recent growth in the Redding area is attributed largely to the recreational opportunities available in northern California. BLM administered public land currently provides (or has the potential to provide) significant amounts of recreational opportunities. Recreational use varies from low intensity hiking and bird watching to very intense uses such as off-highway vehicle races and commercial guiding services. Parcels of public land located near Redding or along important waterways receive the heaviest recreational pressure.

Public land along the Trinity, Shasta, Klamath, and Sacramento Rivers, and Butte and Clear Creeks have been the focus of the Redding Resource Area's recreation program. Beegum, Deer, Mill, Paynes, Battle, and Cottonwood Creeks receive less attention, but are very important to some individuals and groups. All of these water systems possess characteristics that have led to their nomination for study to determine if they are eligible and suitable for inclusion in the National Wild and Scenic River System. Wild and Scenic River designations have become extremely controversial over the past few years because of perceived impacts on private landowners and potential hydro-electric projects.

An issue that arises often is the conflict between various types of recreation and between recreationists and private land owners. Off-highway vehicle use is perhaps the most obvious case, but mountain bike use, commercial operations vs. private recreationists, hunters, and plinkers can precipitate conflicts on occasion. The public has requested that BLM attempt to resolve the conflicts between "loud" uses and "quiet" uses of public land.

FORESTRY

All of the management areas (except the Sacramento River Management Area) contain some land physically suited for production of forest products. However, spe-

cial designations, land use on adjacent private land, or sensitive plant and animal species limit the areas where timber can be harvested. The Redding Resource Area has only 39,151 acres of land physically suited for sustained yield forestry. This represents only a tiny fraction (approximately 1%) of the productive forest land within the Resource Area and approximately 0.4% of the annual harvest within the same area.

Normally the adjustments described above would be of little significance; however, the controversy over protecting old growth forests or continuing timber management is being argued so intensely that any Federal forest management activity becomes an important symbol of the larger controversy.

MINERALS

Mining activity was important historically throughout much of the Redding Resource Area. The remains of the historic activity are widespread: from mine tailings to the nearly intact remains of ore mills. Although active development of mineral resources is low at present, the exploration for valuable deposits of certain minerals (primarily gold) continues at a moderate level. Mining claims are found in all of the management areas, except the Sacramento River Management Area. The extraction of sand and gravel is locally significant for its impacts on anadromous fisheries. Making land available for oil and gas exploration and development, while not locally important, is the subject of intense national debate.

Information on the geology, mineral resources, mining claim locations, mineral potential, mining history, and related bibliography for the Redding Resource Area, is contained in a mineral report entitled "Geology, Energy and Mineral Resources Assessment of the Redding Resource Area, California". This 1989 BLM report is available for review in BLM's Redding Resource Area office.

CULTURAL RESOURCES

The protection of cultural and historical resources was not identified as one of the issues driving this plan. However, comments received during the scoping phase indicates that the public is very interested in the conservation and study of these resources. Making public land available for Native American cultural and religious practices was of prime importance to Native American groups.

MANAGEMENT AREAS

SCOTT VALLEY

Public land in the Scott Valley Management Area consists of approximately 28,000 acres scattered in 127 parcels. The management area is located in the south-central corner of Siskiyou County (see Map 3-1a). Along with the public land managed in this area there are approximately 9,680 acres of private surface/federal minerals land managed by BLM. Numerous small rights-of-way have been issued by BLM in the Scott Valley Management Area, but no major right-of-way corridors cross public land.

In general public access throughout the Scott Valley Management Area is poor. Most legal public access is via the few state and county roads that cross tracts of public land. In the last five years physical access has been increasingly restricted. Every year more gates and trenching of private roads prevent longstanding public access. Examples of the loss of access to public land can be found in Duzel Creek, Moffett Creek, and McConaughy Gulch.

Approximately 7,201 acres of the management area are classed as available commercial forest land. Most of the commercial forest land is in the Klamath Mountains on the slopes above the Scott and Shasta valleys. Scattered parcels are located in the Scott Bar and Marble Mountains. The elevations of these sites range from 2,800 feet to 6,000 feet.

The forest stands occupy all aspects, but the higher quality sites are generally on the north and east slopes where cooler summer temperatures prevail. The timber type is predominantly mixed conifer with a few areas of pure Douglas-fir or pure ponderosa pine. Most commercial stands fall into site classes 2 and 3, although a few small stands are site class 1 (refer to Glossary).

Presently and historically approximately 800,000 board feet (800 MBF) is harvested from public land within the Scott Valley Management Area. The harvest method is generally via individual selection, although shelterwood and small (1 to 5 acres) clear-cuts are also used on a limited basis.

One BLM special status species is known to be located on public land in this management area. This is Scott Valley phacelia (*Phacelia greenii*), a serpentine endemic. Some tracts in the area contain suitable habitat for Yreka phlox (*Phlox hirsuta*) and timber bluegrass

(*Poa rhizomata*)--two sensitive species that have been identified on adjoining private land. The primary threats to these species are chromium or base material mining and overgrazing.

One pair of northern spotted owls and three young were observed on Quartz Hill in 1980. Since that time, only one owl has been observed. Based on current recommendations there is not enough habitat at Quartz Hill to sustain a breeding pair.

Within the Scott Valley Management Area public land provides less than 30% of the total available deer winter range. Throughout the management area the productivity of the habitat has been declining due to wildfire prevention policies in a fire-maintained ecosystem. Deer numbers have declined from historic levels due to changes in agricultural practices, loss of habitat, and a decline in the productivity of habitat.

Approximately 8,000 acres of public land are contained in 8 grazing leases administered by the Redding Resource Area. These leases represent approximately 400 animal unit months (AUM). Two leases are currently classified as category "M" for maintain. The remaining allotments are classified as category "C" for custodial.

Scott Valley was first prospected and mined for gold in the mid-1800s, and during several periods thereafter. Most of the high grade placer and easily accessible lode deposits have already been mined. Recent minerals activity consists of limited gold mining and prospecting. There is no leasable mineral activity and very little mineral material use. As of January 24, 1989 there were 88 lode, 33 placer, one tunnel site and at least one mill site claim recorded with the BLM. Quartz Hill has the highest concentration of mining claims, with 59 claims, mostly lode variety. Recent activity consists of prospecting, limited underground mining and limited placer mining.

Cultural and historical resources on public land in Scott Valley reflect the topography and economic history of the area. There are 11 prehistoric sites and isolated artifact locations recorded on public land. Historic sites relate to gold mining, both placer and lode. They include mining camps, dumps, mining features such as the remains of a mill, tram, arrastre, and cabin locations. There are 14 recorded historic archaeological sites. The greatest concentration of historical sites, is at Quartz Hill. In addition to the above sites there is the Cedar Gulch Indian cemetery on Moffett Creek, and two wild celery (*Lomatium californicum*) gathering areas located

on Quartz Hill. These gathering areas are still used by Native Americans. All three sites are considered culturally significant to the local Native American community. Quartz Hill itself is significant to these same people.

Recreation use throughout the management area is light, and primarily of local origin. The management area contains only one inventoried recreation attraction on public land, a small warm-water pond known as Blue Pond. Most of the public land recreational use is concentrated during the deer and bear hunting seasons.

KLAMATH

Located in north-central Siskiyou County, the Klamath Management Area contains 29,300 acres of public land scattered throughout 115 parcels (see Map 3-1a). In addition BLM manages 16,220 acres of reserved minerals in 51 parcels. There are numerous utility and access rights of way serving the public in this management area. These access corridors include Interstate 5, U.S. 97, S.R. 89, county roads and railroads.

Legal and physical access to public land throughout this management area is very limited. No legal perpetual access for either administrative rights or for the general public has ever been acquired in this area. What physical access is available is via State Highways, Siskiyou County maintained roads, and by U.S. Forest Service administered roads.

BLM has classified approximately 1,479 acres of land as available commercial forest land. These acres are not concentrated within any one location, but are scattered throughout the management area at elevations between 2,800 and 6,000 feet. Individual selection harvest techniques are generally used although a few small clear-cuts have occurred on the high quality sites. Based on acreage available for harvest, this area could sustain an annual harvest of 150 thousand board feet (150 MBF). Reforestation is done promptly as needed in harvest areas. In addition to the commercial timber harvests BLM has sold a variety of forest products such as firewood, posts, and poles on a limited basis to individuals.

Two sensitive plant species are known to be located on public land in the Klamath Management Area. In addition, there is a possibility that nine other plant species may be growing on public land in this management area. The two known species are Greene's mariposa lily (*Calochortus greenei*) and Peck's

lomatium (*Lomatium peckianum*). BLM inventories of riparian vegetation in this management area indicate that nearly 60 percent of the riparian habitat on public land is in fair or poor condition.

The Jenny Creek canyon above Copco Reservoir supports one pair of active nesting Bald Eagles. Nesting areas could occur on public land in the vicinity of Copco and Iron Gate reservoirs, but this has not been confirmed. Secret Springs Mountain and Sheep Rock both have several raptor nests either on or near public land. The presence of a sensitive plant species, the Yreka phlox, has resulted in a recommendation from The Nature Conservancy that BLM acquire land along Juniper Terrace. Although isolated from public land, a number of public comments recommended that the BLM acquire critical wetlands located in Shasta Valley, and Shasta Grass Lake.

A single eighty acre parcel of public land (Iron Dyke Mine) falls within a 67,000 acre northern spotted owl Habitat Conservation Area spanning the Oregon border west of Interstate 5. A 160 acre parcel of public land adjoins another Habitat Conservation Area at Willow Creek Mountain. BLM has an existing Memorandum of Understanding with the Klamath National Forest to manage the latter parcel to protect northern spotted owl habitat.

East of Interstate 5 along the Oregon/California border is the Horseshoe Ranch Habitat Management Area. Federal and State land is intensively managed for wintering deer. This area is administered jointly by BLM and the California Department of Fish and Game (CDF&G). Approximately 55 percent of the deer winter range (public and private) in this management area is inadequate to support the current deer population. Improvement of this range is of prime concern to CDF&G and Siskiyou County. Approximately 50-60 Rocky Mountain elk use Horseshoe or the area just to the east along the Oregon border. However, no special management goals for this elk herd have been set by CDF&G.

The Shasta River just upstream of its confluence with the Klamath River to the Interstate 5 bridge is one of the most important spawning areas for Chinook Salmon in the Klamath system. In this reach of the river occurs approximately one half of Shasta River Chinook spawning. BLM manages about 3.5 miles, or one half, of this stretch of river. In cooperation with CDF&G spawning riffle improvements were constructed and are maintained by the agencies. Because of the importance of this section of river BLM has designated it an Area of

Critical Environmental Concern. The Shasta River also provides significant steelhead angling opportunities.

Other BLM stream ownership is much less significant than the Shasta River, primarily because of the small size of the stream sections. One of these small sections, about one half mile of Dry Creek, has been under an Aquatic Habitat Management Plan since 1977. The goal of this plan is to increase steelhead production through spawning gravel placement and fenced protection of the riparian area. Jenny Creek north of the Oregon border is being considered for designation as an Area of Critical Environmental Concern to protect fisheries and other values.

Approximately 18,240 acres of public land are contained in 20 grazing leases administered by the Redding Resource Area and Ashland (Oregon) Resource Area. These leases represent approximately 2,220 animal unit months (2,220 AUM). One lease is currently classified as Category "I" for intensive. Nine leases are currently classified as Category "M" for maintain. The ten remaining allotments are classified as category "C" for custodial.

Current minerals activity consists of limited small scale placer and lode gold mining and prospecting. All recent operations have been part time, seasonal or sporadic in nature. As of January 24, 1989, BLM records listed 133 lode and 106 placer claims recorded in this management area. Generally, public lands west of Interstate 5 have the highest concentration of claims. There are currently two oil and gas leases held on public land in the management area, but there has never been any exploration for oil and gas on public land and only very limited exploratory drilling in the region.

The Klamath Management Area contains a relative diversity of environmental settings which were variously exploited by Native Americans and later European explorers, trappers, miners, and settlers. Periodic surveys and existing historic documents have led to the recording of 55 archaeological/historical sites. Thirty-six of these are prehistoric sites, 15 are historic sites, and four contain both historic and prehistoric components. Prehistoric sites include villages along rivers, seasonal camps and hunting and work stations in the uplands, and temporarily used rock shelters. Historic sites primarily relate to gold mining and attendant settlement/occupation. Other sites relate to early livestock use. The Military Pass/Yreka Trail, a branch of the Applegate Trail (in turn part of the proposed California

National Historic Trail), crosses through several sections of public land.

Based upon ethnographic studies and informant discussions, there are 16 Native American locations within the management area that are of possible religious significance. These include named Shasta villages or rancherias, plant gathering areas, a possible burial location, and Sheep Rock and Black Mountain. A few mythological spots marked by prominent landforms are also present.

Most public land based recreational use occurs along the Klamath River and consists primarily of fishing and whitewater boating. River access is available at the Riverview site, Osburger historic cabin site, and the Borderline site. Because alternative river access is available via Pacific Power and Light facilities, use of public land is light. The Klamath River is a part of the National Wild and Scenic Rivers System downstream from the Iron Gate Dam, and is being studied for inclusion in the National Wild and Scenic Rivers System upstream from Copco Lake.

Developed recreational facilities are available at Mallard Cove on Copco Lake and at the Borderline Access. Both are maintained by Pacific Power and Light. The remainder of the area's public lands are generally physically accessible but seldom used due to a lack of recreational attractions. Some higher elevation areas are used for hunting (big game and upland). Off-highway vehicle use, including driving for pleasure, occurs on the scattered public land, however this use is usually incidental to some other activity which may not be focused on public land.

TRINITY

The approximately 48,746 acres of public land in the Trinity Management Area is located in 112 parcels scattered within larger blocks of private timber holdings, U.S. Forest Service land, and small private tracts (see Map 3-3b). Population in Trinity County is low, about 12,000, with most residents living in or near Weaverville and in the small communities along State Highways 3, 36, and 299. Approximately 80% of Trinity County is owned by the federal government--primarily the U.S. Forest Service.

Access to public land in this management area is much better than in other management areas. BLM has acquired thirty perpetual exclusive easements in support of the forestry program. Approximately 50% of the

public land tracts can be accessed by the public. The Trinity River provides access to some parcels that would not otherwise be available to the public.

A unique problem has arisen in this management area. Several private surveys, used for subdivisions, were done incorrectly. Lots were sold and improvements made based on these erroneous surveys. This problem was revealed when BLM Cadastral surveys were performed in support of the forestry program. When the boundaries of public land were clearly defined, numerous unauthorized uses of public land were identified. These encroachments include yards, utilities, roads, houses, trailers, trailer parks, campgrounds, ponds and reservoirs, irrigation systems, and cemeteries. Areas where survey-related trespass problems have been identified include: T. 32 N., R. 9 W., Blanchard Flats-Coal Mine-Indian Creek; T. 32 N., R. 10 W., Browns Mountain; T. 33 N., R. 9 W., Steel Bridge-Poker Bar-Bucktail-Weaverville; T. 33 N. 10 W., Junction City-Slaterry Pond-Weaverville; T. 33 N., R. 11 W., Junction City; and T. 34 N., R. 11 W., North Fork-Helena-Barney Gulch. Where possible, BLM has worked to resolve these inadvertent trespass cases. However, the Trinity River has been designated as a Recreational component of the National Wild and Scenic Rivers System from Lewiston Dam to its confluence with the Klamath River. This designation eliminates the option of sale within the recreational corridor and has blocked the resolution of a number of these inadvertent trespass cases.

Approximately 15,633 acres of this management area is in the available commercial forest land and is managed primarily for timber production. Tracts within the timber base are scattered throughout the management area. Based on acreage and productivity, the Trinity Management Area could sustain an annual harvest of approximately 2 million board feet (2 MMBF). This is an average and the actual volume fluctuated widely each year. The harvest method is generally individual selection, however, a few small (1-2 acres) clear cuts and seed-tree cuts have been made on the higher site areas. Reforestation is done promptly when needed in the harvest areas. Small scale sales of posts, poles, manzanita burls, Christmas trees, redbud boughs, and firewood (logging slash, blow-down, hardwoods) are made on occasion to individuals. There have been some commercial fuelwood sales in the past.

Approximately 4,560 acres of public land are contained in 5 grazing leases administered by the Redding Resource Area. These leases represent less than 500 animal unit months (AUM). One lease is currently clas-

sified as Category "I" for intensive and one lease as Category "M" or maintain. The three remaining leases are classified as Category "C" for custodial.

The Trinity Management Area was first prospected and mined for gold in 1848, following the discovery of placer gold along the Trinity River. Several major periods of gold mining followed thereafter. Most of the high grade placer and easily accessible lode deposits have already been mined. Along with gold there is a moderate to high potential in the area for sand and gravel, fractured rock and limestone.

Current minerals activity is limited to small scale placer and lode gold mining, fractured rock excavation, sand and gravel extraction, and prospecting for other minerals. With few exceptions, recent mining has largely been part time, seasonal, or recreational in nature. Suction dredging in the Trinity River and its tributaries is the most common type of mining in the area. Some small, commercial placer mining ventures have and are occurring in the Deadwood Gulch, Panwauket Gulch, Douglas City, and Bucktail Hole areas. Lode gold mining has largely been limited to exploration in existing mines. Public land in Deadwood-Eastwood Gulch, Bully Choop, Rich Gulch, Panwauket Gulch-Reading Creek, and Trinity River areas have the highest concentration of mining claims in the management area. There are currently no oil and gas leases held on public land, nor has there been any known exploration for oil and gas in the area.

Within the management area 9,260 acres have been professionally inventoried for cultural resources. These surveys have been scattered throughout the area, but were completed in support of BLM programs, or in conjunction with private activities on public land, and do not represent a random sample of the management area. These surveys have identified 58 locations containing cultural resources. These sites are dominated by historic sites left from the search for gold in the management area. Historic sites include portions of the gold mining communities of Bagdad/Helena, Indian Creek, and Deadwood. Indian Creek has been formally determined to be eligible for inclusion in the National Register of Historic Places. Numerous major locations of gold mining, principally hydraulic and placer, can be found on public land. These locations stand out from the pervasive remains of minor gold mining (amorphous tailings, small ditches, localized workings, etc.) found throughout the lower elevation public lands. Other sites include two major ditches (the La Grange and Brown's

Mountain), two graves, and the Lowden Toll Road and bridge foundations.

The prehistoric sites include the National Register eligible site at Helena, the oldest known site administered by BLM in the area. This site may exceed 5,000 years in age. Other sites include upland small housepit locations, a mano cache, a milling station, and lithic scatters (see Glossary). A very important site is the late 19th century rancheria at Salt Flat which includes a cemetery, a large dance house pit, and scattered remains of settlement. It is considered sacred by contemporary Wintu. Their ancestors were the principal aboriginal inhabitants of the area.

Public land accounts for approximately 30,046 acres of deer winter range in this management area. This winter range is used by only one deer herd, the Weaver-ville Deer Herd. Trends on the winter range appear downward, primarily because of reservoir development, subdivision of private land, and fire suppression. Since the construction of the Trinity Reservoir, some habitat work has been completed to try and reverse the downward trend.

One Federally listed endangered species, the Bald Eagle, is currently nesting adjacent to public land in the Jennings Gulch area. Special restrictions have been developed to limit activities on public land in the nesting territory during the breeding and nesting season. Spotted owls, a Federally threatened species, have been located on public land in several areas within the management area. BLM is currently conducting inventories to determine if more spotted owls are using public land.

The only known sensitive plant that occurs on public land is Heckner's lewisia (Lewisia cotyledon var. heckneri). Two sensitive plants, Brandegees' eriastrum (Eriastrum brandegeae) and Canyon Creek stonecrop (Sedum obtusatum spp. paradisum), are suspected to occur on public land.

Riparian vegetation along the Trinity River has increased significantly since the construction of Lewiston Dam. The stabilized flows have led to more sediments being deposited along the river and the scouring effects of high water has largely been eliminated. Along tributary streams, however, riparian vegetation has been declining due to the construction of roads in the riparian zone, logging, mining, and the installation of utilities to private residences. The net result of the degraded riparian vegetation along the tributary streams and the

increase in vegetation along the river is that more sediments are entering the Trinity River, and once there, are being deposited on spawning gravels in the river.

The general trend in salmon and steelhead populations from the Trinity River since the early 60's has been markedly down. However, severe restrictions on fish harvest since the mid 80's have resulted in a substantial increase in anadromous fish runs in the last three years. It is the primary fisheries goal of the various agencies having responsibility for habitat in the Trinity River system to restore anadromous fish runs to the levels that existed prior to the construction of water projects of the 60's. The Trinity River Basin Fish and Wildlife Restoration Act authorizes the expenditure of \$57 million over a ten year period to meet this natural fish production goal. {Hatchery production, which accounts for a large proportion of existing runs, was only intended to mitigate for natural production lost to water projects.} The BLM manages approximately 20 miles of river habitat and 21 miles of tributary habitat. Many of the tributary streams managed by BLM are important spawning and or nursery areas for anadromous fish.

The Trinity River below Lewiston Lake receives heavy fishing pressure for Chinook Salmon and steelhead. Fishing for brown trout and rainbow or juvenile steelhead is also significant, but probably amounts to only about 10% of the total effort. There is some limited fishing in tributary streams.

Nearly all public land within this management area are used for deer, bear, and small game hunting on a seasonal basis. The vast majority of recreational use is concentrated within the Trinity River corridor, with activity preferences in descending order of relaxing, fishing, camping, and float boating. Recreational use of all types in this area usually amounts to 100,000 visitor days annually. BLM operates two full service fee campgrounds as well as a number of primitive campgrounds and river access sites. Carrying capacity for the developed BLM facilities is normally exceeded during the summer season holidays. However, use closely matches capacity over most of the heavy visitation season (May through November). Recreation management direction for the Trinity River is defined by the Trinity River Recreation Area Management Plan completed by the BLM in 1983.

There are currently fourteen commercial fishing guides operating under BLM Special Recreation Permits. Additionally, commercial whitewater boating is permitted cooperatively under a Memorandum of Understanding

with the Trinity National Forest, with most public land use occurring at the North Fork River Access. Recreational fees annually total more than \$15,000 in this management area for camping and commercial uses.

This management area also contains a public land segment of the Trinity Alps containing approximately 4,875 acres in the Tunnel Ridge vicinity.

SHASTA

This management area is located entirely within Shasta County mainly west of Interstate 5, and south of Shasta Lake (see Map 3-3b). There are a few parcels of public land east of Interstate-5, but most of the public land in this management area, approximately 44,752 acres, is scattered west of Redding.

Many of the smaller parcels are squeezed between Redding and Whiskeytown National Recreation Area. Some tracts of public land are located within the Redding sphere of influence. These parcels are quite literally the backyards for thousands of residents. As such, they provide an enhancement to the quality of life and also property values for neighboring landowners and residents. They can just as easily become a major concern to neighbors when use for loud or destructive play, such as shooting, off-road vehicle play, drinking parties, trash dumping and authorized activities such as locateable mineral prospecting and development. Public land has also been a source of relatively inexpensive land for Shasta County and local communities for such purposes as schools, playgrounds, the Sacramento River Trail, and landfills.

Access via public roads exists to approximately 17,000 acres of public land in this management area. Public access has been acquired by the Bureau in two areas, Honeymoon Ridge and Big Gulch. The Big Gulch area is located east of Clear Creek and north of the East Fork of Clear Creek. The four easements in Big Gulch provide access to 2,160 acres. BLM has issued many rights-of-way for access roads, utility lines, and public facilities across public land, and many tracts have physical access provided by these utility systems. Access in this management area has created two issues for BLM: one, the demand for more access to public land; and two, conflicts with adjacent private landowners caused by the use of public land where access already exists.

Recreational use of public land in this management area is very heavy. The proximity to Redding and the general lack of control on activities makes these tracts

attractive to many residents. Use is primarily local in origin and commonly consists of activities such as shooting, off-road vehicle use, picnicking, hang gliding, swimming, horseback and mountain bike riding, gold panning, and hunting. This management area also includes the Gene Chappie/Shasta Off-Highway Vehicle Area, an inter-agency off-road vehicle use project that encompasses over 50,000 acres of federal and private land between Clear Creek and Keswick Lake. The Gene Chappie/Shasta Off-Highway Vehicle Area does attract recreationists from all over the State. Parts of the management area have been used for competitive events, including war games, bicycle moto-cross races, mountain bike races, off-road motorcycle races, archery competition and related camping. The growth of Redding in recent years has made a number of recreational activities that were once legitimate on these tracts, such as shooting, unacceptable or even unsafe.

One Federal candidate species is found on public land in this management area. The Shasta salamander is found in limestone outcrops around the Shasta Lake area. This species is listed as rare by the State of California. The Whiskeytown Deer Herd, a sub-unit of the Weaverville Herd, occupies an area between Shasta Lake and the Sacramento River on the east, and Clear Creek on the west and south. Public land makes up 31% of the deer winter range in this management area. This deer herd is primarily constrained by poor forage conditions on the winter range.

Many other wildlife species are found in the M.A., including gray fox, racoon, black bear, mountain lion, valley quail, waterfowl, ringtailed cat, road runners, and many others. However, the urbanization of most of this area has eliminated a great deal of habitat. In those areas where marginal habitat still exists, harassment from residents and their pets have greatly reduced the overall wildlife population and the number of species.

Chinook Salmon, steelhead and resident trout are all found in the Sacramento River below Keswick Dam. Public land provides access to about four miles of the river above Redding. Jerusalem Creek, the North Fork of Cottonwood Creek, Whiskey Creek, and Clear Creek all support populations of resident trout. Salmon populations in the Sacramento river have been in decline. Both the Sacramento River and Clear Creek provide opportunities for fishery projects to enhance habitat for this species. With work, Clear Creek could, according to estimates by CDF&G, support up to 6% of the salmon population in the Sacramento River.

Only one sensitive plant is known to occur on public land, Canyon Creek stonecrop (*Sedum obtusatum* var. *paradisum*). One plant that could occur on public land is the newly discovered grass, *Punccinellia howellii*. This grass was found on an alkali seep near public land.

The Shasta Management Area has approximately 4,541 acres in the available commercial forest land. The majority of these acres lie between Wild Cow Mountain and Whiskeytown Lake and west to the Shasta/Trinity County line. The only significant exception to this generality is the Jerusalem Creek area. Less than 100 acres of commercial timber exists outside of these two zones. The timber type is predominately mixed conifer with a few areas of pure ponderosa pine or pure Douglas fir. Most commercial timber sites fall into site classes 2 and 3.

Presently and historically approximately 560,000 board feet (560 MBF) are harvested from public land within the Shasta Management Area each year. The harvest method used is individual selection, however shelterwood and small clear-cuts are also used on a limited basis. Other products from the forest, though not necessarily from the "commercial forest", include firewood (logging slash, blow-down, oaks, etc.), posts and poles. These miscellaneous products have historically been sold to individuals on request.

Approximately 4,240 acres of public land are contained in 5 grazing leases administered by the Redding Resource Area. These leases represent 175 animal unit months (AUM). All leases are currently classified as Category "C" custodial.

The Shasta Management Area was first prospected and mined for gold in 1848, following the discovery of placer gold in Shasta County at Clear Creek. Several major periods of gold mining interest followed thereafter. Most of the high grade placer and easily accessible lode deposits have already been mined. Along with gold there is a moderate to high potential in the area for silver, copper, zinc, lead, iron, sulfur, sand and gravel, and pumicite (volcanic tuff). Copper, zinc, lead, iron, silver, sulfur, and gold are found in massive sulfide deposits in the West Shasta Copper-Zinc District, southwest of Shasta Lake. Most of the massive sulfide deposits are on private property, and some adjacent public land.

Current minerals activity is restricted to small scale placer and lode gold mining and prospecting for other minerals. Recent mining has largely been part time, seasonal, and recreational in nature. Some small com-

mercial ventures have and are occurring in the French Gulch area. As of January 1989 there were recorded 512 lode, 223 placer, and 19 mill site claims in the management area. Public land in the French Gulch-Deadwood, Old Diggins (Buckeye), Whiskey Creek, Kett, Swasey Drive, Muletown, Clear Creek, and Jerusalem Creek-North Fork Cottonwood Creek have the highest concentration of mining claims in the management area. There are currently no producing mineral leases or mineral materials disposals in the management area. A variety of cultural resource types are found in this management area. These principally relate to prehistoric occupation and the use of rich lowlands near the Sacramento River and its primary tributaries, but also to the extensive gold mining activities centered on the stream beds and nearby terraces and hills. Public land contain prehistoric and historic sites that relate to most facets of the region's human history. These lands also hold areas of spiritual importance to descendants of the Wintu Indians who were here in large numbers at the time of European contact.

There are 88 archaeological sites known and recorded on public land within this management area. These include 24 prehistoric sites, four sites with both prehistoric and historic components, and 60 historic sites. Some of the prehistoric sites may be 7,000-10,000 or more years in age. There are also 16 Native American place name locations on public land and one Native American cemetery. The majority of archaeological surveys completed in this area were done in support of specific project proposals (although in recent years cooperative agreements with regional colleges and universities have been used to complete generalized surveys), and most of the management area has never been inventoried. Based on the surveys completed, it is estimated that as many as 500-700 archaeological sites may be located on public land in this management area. looting of both historic and prehistoric sites is a constant problem on sites in this management area, especially near Redding. In addition to the scientific data destroyed by this criminal activity, the disturbance of burial sites is a source of extreme concern to Native Americans. Control of this looting is very difficult given the land pattern in this management area.

SACRAMENTO RIVER

The smallest of the seven management areas, the Sacramento Management Area lies along both sides of the Sacramento River in Shasta, Tehama and Butte Counties (see Map 3-6a). Above Red Bluff the river is dominated by a bed rock corridor, and below by a

alluvial floodplain. There is a concentration of public land above Red Bluff between Jellys Ferry and Iron Canyon. This concentration is known as "The Sacramento River Area" and includes the mouths of both Paynes and Inks Creeks. The remaining public land consists of various islands and small parcels upriver and downriver from the Sacramento River Area. Total public land acreage in this management area is 12,194 acres. Both Todd and Foster Islands, downriver from Red Bluff, are on the California Natural Diversity Data Base list of Significant Natural Areas. Indeed, the entire river is considered very significant by many conservation groups, agricultural interests, and the general public. Nowhere else in the Redding Resource Area is there a more dramatic demonstration of the significance relatively small public land holdings can have on disappearing environments and recreational opportunities.

Acquisition programs currently being implemented by various state and federal agencies have focused a great deal of attention on the Sacramento River.

Agricultural development and urban development have destroyed approximately 95% of the native riparian habitat along the Sacramento River that existed at the time of European contact. Any remaining riparian vegetation is considered extremely important, especially below Red Bluff. Riparian vegetation along the Sacramento River was classified in 1988 by the California Department of Fish and Game. The following classifications were made for public land along the River: Sacramento River, Paynes Creek, and Inks Creek, Great Valley Mixed Riparian Forest; Todd Island, Great Valley Cottonwood Riparian Forest and Great Valley Mixed Riparian Forest; Foster Island, Great Valley Mixed Riparian Forest; and Sacramento Island, Great Valley Oak Riparian Forest. Major tributaries to the Sacramento River Area such as Battle Creek, Inks Creek and Paynes Creek have willow-alder associations with dense undergrowth. Other streams in this management area are characterized by bed rock or grasses along the water course.

This management area contains some of the best public grazing land in the Redding Resource Area, producing more forage per acre than elsewhere in the Resource Area. Approximately 8,192 acres of the management area are leased and 1,560 animal unit months are harvested each year. The grazing season generally runs from December to May. Currently the residual mulch left after grazing is more than adequate to protect this resource. Most of the grazing leases are held by full-time ranching operations.

Three sensitive plant species are known to be present on public land in this management area. They are silky cryptantha (*Cryptantha crinita*), Fremont's calycadenia (*Calycadenia fremontii*), and slender orcutt grass (*Orcuttia tenuis*). Two sensitive plants thought to occur on public land are Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*) and adobe lily (*Fritillaria pluriflora*). Slender orcutt grass and Red Bluff dwarf rush are both associated with vernal pools. Vernal pools support a variety of endemic species and are a unique habitat type. They are typified by prolonged inundation in winter and spring, and complete dryness in summer. Vernal pools are fairly rare now due to conversions caused by agriculture, urban development or to impoundment. A number of vernal pools are present on public land in this management area. Within the Sacramento River Area there is a prime example of a native blue oak (*Quercus douglasii*) woodland. Statewide, this community is rapidly disappearing due to cutting and mismanagement.

Upland areas in this management area support good populations of quail, mourning doves and wild turkeys. Deer winter range is generally in good condition. Bald Eagles use the Sacramento River during the winter months for roosting and feeding. Yellow billed cuckoo (a State listed endangered species and federal candidate for listing as "Endangered") habitat exists at Todd Island. Calling in recent years has revealed the presence of the Cuckoo only at Todd Island. Migrating waterfowl make use of wetlands at Table Mountain and Paynes Creek.

Cold water releases from Shasta Dam makes the Sacramento River excellent year-round habitat for several cold water species. Important fish species in the river include resident rainbow trout, steelhead, and four recognized runs of chinook salmon. All of the salmon runs have declined in recent years and the winter run is currently listed as threatened. Salmon spawning habitat on public land is present in Paynes Creek, Cottonwood Creek, and in the Sacramento River at Todd Island. Paynes Creek, and at least one pond in the Sacramento River Area, provide habitat for small-mouth bass and green sunfish.

This is an extremely important area of cultural resources, regionally one of the most important in the Redding Resource Area and undoubtedly one of the most important in California and the west with more than ten archaeological sites per square mile on public land. The Sacramento River and its tributaries formed a focus for both considerable prehistoric occupation and use and

historic activities. The valley was rich in resources, including salmon in the river, and acorns, deer, quail, rabbits, and other food products nearby. Grazing and timber-related industries formed the historic focus. In addition, this segment of the river has not yet been subjected to much modern development allowing the preservation of cultural resources. However the pristine nature of the cultural resource is beginning to be degraded by looters, and there is some natural erosion and deterioration due to grazing and vehicle use.

The Sacramento Management Area receives heavy recreational use every year. There is one full-service campground with associated boat ramp and dock, fishing access trails, and potable water at Reading Island. There are several other areas with less development, however only portal kiosks, toilets, and parking areas have been developed to date. This management area provides over 21,500 visitor days (VDs) of angling, 2,500 VDs of camping, 2,100 VDs of hunting, and 4,000 VDs of motorized recreation in the form of vehicle play or motorized sightseeing. Recreational use in this area is seasonally concentrated. Float boating and rafting are popular during the hot summer months, while hunting, horseback riding, and sightseeing tend to be more popular during the cooler months of the year. Fishing is popular throughout the year, with high concentrations of anglers on the river during salmon and steelhead runs.

The recreation attraction provided by the Sacramento River flowing through undeveloped tracts of public land creates a draw for tourists (fishermen, boaters, campers) from throughout the region. This increased tourism has a positive economic impact on the communities situated on the river as local businesses provides goods and services. The Sacramento River Management Area provides some fairly hard to find recreational opportunities, and its proximity to major transportation routes enhances the quality of life for many local residents.

Exploration and development of mineral resources in this management area is of relatively minor importance. There are no known mining claims, and no producing mineral leases or sales. There are three oil and gas leases within the management area, and there is a moderate to high potential for natural gas in the area. The management area does include areas with moderate to high potential for decorative stone and aggregate (sand and gravel), but development is not occurring at this time.

ISHI

BLM manages approximately 36,526 acres scattered in 252 parcels within the Ishi Management Area (see Map 3-7a). In addition, approximately 78,560 acres of reserved minerals are administered by BLM in this management area. Tracts of public land are scattered from near Shingletown in Shasta County to the southern edge of Butte County. For the most part, public land is located between the agricultural land in the Sacramento Valley and the National Forest boundaries.

As in the management areas previously described most of the access to public land in this management area is provided by other than BLM roads, e.g. State, County and U.S. Forest Service controlled and maintained travel ways. However BLM has acquired public access rights via perpetual exclusive easements on four roads in the vicinity of Butte Creek in Butte County. The four are the Powerline Road, Ditch Creek Road, Garland Spur, and Dix Mine Road.

Historically BLM has removed an average of approximately 800 thousand board feet (800 MBF) from the 7,706 acres of public land in the available commercial forest land. Public land suitable for producing commercial timber is scattered throughout the management area, however, there is a concentration of acreage in the Cohasset Ridge, Doe Mill Ridge, and Butte Creek vicinity northwest of Chico. This timber tends to be portions of larger stands segregated only by ownership lines or harvest boundaries. Elevations range from 1200 feet in Bear Creek Canyon to 6,000 feet at Bald Mountain. The BLM supplies less than 1% of the total timber cut in Butte, Tehama and Shasta Counties, but is locally significant in the Butte Creek, Cohasset Ridge and Doe Mill Ridge areas.

Approximately 7,720 acres of public land are contained in 15 grazing leases administered by the Redding Resource Area. These leases represent approximately 940 animal unit months (AUM). Three leases are currently classified as Category "M" for maintain. The remaining twelve leases are classified as Category "C" for custodial.

Three sensitive plant species are known to occur on public land in this management area. They are: Slender Orcutt grass (*Orcuttia tenuis*); Closed lip penstemon (*Penstemon personatus*); and Butte County checkerbloom (*Sidalcea robusta*). Eleven other sensitive plant species are suspected to be present on public land, but their presence has not been confirmed. One

rare plant that does grow on public land in the management area is Baker cypress (*Cupressus bakeri*). Although not on BLMs list of sensitive species, this tree is found in only eight small locations statewide. The 40 acre stand on public land is remarkable due to its undisturbed condition, the size of the individual trees, and the fragmentation of the remaining examples of the Burney Springs population. Other examples of the Burney Springs populations exist as small stringers within pine plantations managed by the U.S. Forest Service for timber production.

Most of the Ishi Management Area is deer winter range, with summer range on parcels located above 3,000 feet in elevation. Three migratory deer herds range through the area in addition to the resident herds found along most major streams. Throughout the management area deer herds are limited by poor condition of the summer ranges. A small band of Rocky Mountain elk that ranges from Bella Vista to Shasta Lake and east into the Oak Run area may occasionally use tracts of public land. Wild turkey populations are excellent in Shasta and Tehama Counties. The highest concentrations are found in Shasta County. At least one mineral spring on public land in Shasta County is important to both Bandtail pigeons and local hunters.

Archaeological inventories have been conducted on some eighty-seven parcels of public land encompassing approximately 6,650 acres. Eighty-three archaeological sites and isolated artifacts have been located on this 18% of the public land giving an average site occurrence of one site per 79 acres of public land. This average varies within the management area: The area around Lake Oroville is rich in archaeological sites whereas many rough upland parcels have a very low sensitivity for any cultural resources.

Prehistoric sites include large middens or villages, smaller middens, or presumed temporary camps, lithic scatters, bedrock mortars, petroglyphs, and a number of rockshelters used for occupation. Six recorded isolated artifacts are included in the 48 recorded prehistoric locations. The Martin Cemetery near Oroville is a still-used Native American cemetery with an associated dance house pit and a reported mourning site. Perhaps the most famous site in the entire north state is the Ishi camp and caves area on Deer Creek.

Historic sites include homesteads, mines, mining camps, stamp mills, mining ditches (such as the Cherokee and Miocene ditches), dumps, rock walls, a corral and loading chute, the Old Forbestown area with

its cemetery and brothel ruins, and historic roads and trails, including the Humboldt Road and Lassen Trail (part of the California Trail under consideration for designation as a National Historic Trail). Most of these historic sites are located in Butte County.

Ethnographically, the management area was inhabited by the Konkow, Yana and Pit River Indian groups, all of whom were generalized hunters and gatherers with a focus on salmon, deer and acorns as principal foods. Based on past studies, six sacred locations exist on BLM administered public land. These sacred sites include a cemetery, Ishi's camp, a mountain peak, and three other geographic locations. Beargrass has been collected traditionally on Hatchet Mountain. Other traditional collecting areas may exist but are unknown to BLM.

A number of creeks and streams flow through this management area that are at least locally important. These include Butte Creek, Antelope Creek, Mill Creek, Deer Creek, and Big Chico Creek. Deer and Mill Creek have been identified by a number of organizations as worthy of study for inclusion into the National Wild and Scenic River System. Public land along these waterways generally consists of small parcels scattered at wide intervals along the course of the creeks. In the case of Deer Creek public land may not actually reach the banks of the stream. Public land along Mill Creek has been used as a take out point by some rafters. Very little inventory work has been done on any of the riparian vegetation in this management area. Where studied, the condition of riparian areas is dependent upon management activities in the watershed above the public land.

The Ishi Management Area is located in four geologic provinces: Klamath Mountains, Cascade Range, Great Valley, and Sierra Nevada Mountains. Recent minerals activity consists of small scale placer and lode gold mining and prospecting. All recent operations have been part-time, seasonal, or sporadic in nature. As of January 1989, BLM mining claim records showed that there were 71 lode, 116 placer, and 4 mill site claims recorded in this management area. Generally, public land in the Ingot, Forbestown, Butte Canyon, West Branch Feather River, and Lake Oroville areas have the highest concentration of mining claims and mining activity.

There are currently five oil and gas leases held on public land. Regionally, oil and gas exploration has been concentrated in the Sacramento Valley, with several gas fields developed in the southwestern corner

of Butte County. There has been no known exploration for oil and gas on public land or Federal mineral estate.

Recreational use of public land in the Ishi Management Area is light due to the small size of most parcels, lack of marked boundaries, and spotty access, with most use occurring during the hunting season. Only two small areas within this management area receive active recreation management. These are the Upper Ridge Nature Preserve (120 acres) in Magalia and the Forks of Butte Creek Recreation Area (2,000) acres in Butte Creek Canyon. Both of these areas are managed for BLM through cooperative management agreements by volunteer groups.

The Upper Ridge Nature Preserve contains two self-guided interpretive trails, with a third trail under construction. It receives approximately 1,700 visitor days annually. The Forks of Butte Creek Recreation Area contains over five miles of hiking trails and 30 recreational mineral collecting permit sites. This area receives approximately 4,000 visitor days annually for trail hiking, fishing, camping, nude sunbathing, picnicking, and recreational mineral collection. Recreational mineral collecting opportunities draw visitors from all over the state to the Forks of Butte Creek Recreation Area. The recreational mineral collection sites are managed directly by the Redding Resource Area.

YOLLA BOLLY

Public land in this management area consists of 115 tracts located in a checkerboard pattern in southwestern Shasta and western Tehama Counties. These scattered tracts total 48,000 acres of public land and 35,280 acres of reserved minerals (see Map 3-9b). Numerous rights-of-way for utilities and access crisscross this management area. Major transportation facilities include Interstate 5, State route 36, and many Forest Service, county, and private roads. Despite the number of roads in this management area, legal access exists to only about 12% of the public land.

Due to the limited access and lack of significant attractions, recreational use of public land in the management area is light, limited primarily to hunting for deer and upland game. One potential recreation attraction is Beegum Gorge, a nearly 5,000 acre parcel containing Beegum Creek. Beegum Creek is the most significant BLM administered fisheries habitat in the management area. Beegum Creek maintains good flows year round and provides good habitat for resident rainbow trout, as well as a few steelhead and spring run salmon. Most of

the gorge is only accessible by foot and there are no BLM facilities or trails. There is a primitive campground immediately upstream from the public land on the Trinity National Forest. Beegum Creek has been recommended for study to determine if it is eligible for inclusion in the Wild and Scenic Rivers System.

In addition to Beegum Creek, nominations for study to determine eligibility for inclusion into the Wild and Scenic Rivers System have been made for segments of Cottonwood Creek. The sections recommended for study are the Middle Fork of Cottonwood Creek (above Beegum Creek confluence), and the South Fork of Cottonwood Creek (above Cold Fork confluence).

Generally this is an area of relatively low cultural sensitivity. Archaeological and historical surveys of public land in this management area have led to the identification of nine archaeological sites. Based upon BLMs ethnographic study there are no known Native American places on public land.

The Yolla Bolly Management Area is located in three geologic provinces: along the western side the Klamath Mountains and the Coast Range, and in the central and eastern portions the Great Valley. Current mineral activity consists of small scale placer gold mining and other minerals prospecting. Public land northwest of the Igo-Platina Road, Beegum Gorge, and Tedoc Mountain have the highest concentration of mining claims in the management area.

There are currently no oil and gas leases held on public land. There has been no known exploration for oil and gas on public land, although several natural gas fields have been developed in the south-central portion of Tehama County. Regionally, oil and gas exploration has been concentrated in the Sacramento Valley.

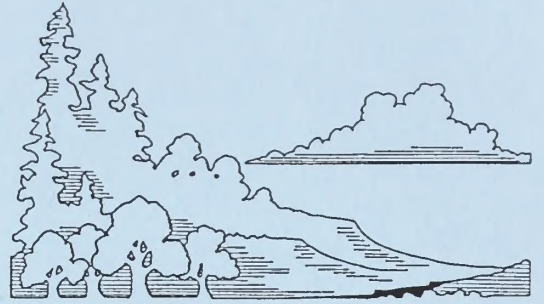
With the exception of Valentine Ridge, most of this management area is deer winter range. Valentine Ridge is used as a transition area. There are four deer herds that use this winter range. They are the Thomes Creek herd, Tomhead herd, Beegum herd, and the Tehama resident herd. Public land ownership within the deer range is approximately 10%. In those areas that have burned in recent years (Skinner Mill Fire, controlled burns and small wildfires), browse conditions appear to be good. However, most of the public land winter range is covered with old decadent brush fields that have become unavailable to deer and have lost much of their nutritional value.

There are two special status plant species that are believed to be growing on public land in this management area, adobe lily (*Fritillaria pluriflora*) and Tracy's sanicle (*Sanicula tracyi*) and three special status plant species known to be on public land. The three known to be present are Brandegee's eriastum (*Eriastrum brandegeae*), Indian Valley brodiaea (*Brodiaea coronaria* ssp. *rosea*), and peanut sandwort (*Minuartia rosei*). Also growing on public land is a plant of special concern, the dimorphic snapdragon (*Antirrhinum subcordatum*). Although not on BLM's special status plant list, the California Native Plant Society lists this snapdragon as a rare plant (threatened or endangered) in California.

Approximately 6,260 acres of public land are contained in 6 grazing leases administered by the Redding Resource Area. These leases represent approximately 370 animal unit months (AUM). One lease is currently classified as Category "I" for intensive. Two leases are classified as Category "M" for maintain. The three remaining leases are classified as Category "C" for custodial.

Regionally, the BLM timber resource in the Yolla Bolly is insignificant (less than 1%). However, it is in high demand as indicated by the high values BLM has historically received for the timber. The Yolla Bolly Management Area has approximately 2,591 acres in the available commercial forest land. The majority of these acres are in the Valentine Ridge, Elkhorn Ridge, and Tedoc Mountain vicinity. The remainder of the acreage is scattered throughout the management area, generally at the higher elevations. The timber type is predominately mixed conifer with a few areas of pure ponderosa pine or pure Douglas-fir. Most of the commercial timber land is classified as site class 3, although a few small stands would be site class 2 or 4. Based on acreage and productivity, the Yolla Bolly Management Area public land could sustain an annual harvest of approximately 440 thousand board feet (440 MBF).

CHAPTER 3 - MANAGEMENT ALTERNATIVES INCLUDING THE PROPOSED ACTION



CHAPTER 3

MANAGEMENT ALTERNATIVES, INCLUDING THE PROPOSED ACTION

INTRODUCTION

Five land-use management alternatives, including the preferred alternative or "proposed action", are described in this chapter for each of six management areas. Four land-use management alternatives, including the proposed action, are described for a seventh management area, Sacramento River. This chapter contains a detailed description, therefore, of thirty-four individual management formulas considered in this RMP. The chapter is organized to: define the five land-use management alternatives, explain existing management guidance/decisions which constrain each alternative, describe each land-use management alternative for each management area, and, communicate the rationale for selecting the preferred alternative or proposed action for each management area. Table 3-1 at the end of this chapter portrays the mix of preferred alternatives selected as the proposed action for the Redding RMP. Finally, Table 3-2 provides a summary of the impacts expected through a Resource area-wide implementation of each land use management alternative.

ALTERNATIVE DEFINITIONS

The five land-use management alternatives provide an array of realistic management options. Each alternative is consistent with the Federal Land Policy and Management Act (FLPMA) and represents a varying mixture of goals which can be accomplished under current funding levels. Single-use alternatives were not developed since such alternatives would be inconsistent with the multiple-use mandate and philosophy of BLM. Moreover, it was not necessary to create additional land-use management alternatives unique to a given management area. The five generic land-use management alternatives provided sufficient latitude to address the planning issues (described in Chapter 1) and resource values associated with administration of public lands within all seven management areas.

The five generic land-use management alternatives include: No Action, Administrative Adjustment, Enhance-

ment of Natural and Cultural Values, Resource Use with Natural Values Consideration, and Resource Use. The following is an explanation of each land use management alternative:

"NO ACTION"

This land-use management alternative is a continuation of existing management decisions and prescriptions described in the Management Framework Plan Amendment of 1982. These existing decisions, as stated in the land-use allocations, would be brought forward and the prescriptions covered by the Environmental Impact Statement developed as part of this RMP document.

"ADMINISTRATIVE ADJUSTMENT"

In order to improve management efficiency and effectiveness, public land holdings would be consolidated in areas of highest resource value. Decisions under this alternative would provide management direction for transfer of management responsibility, jurisdiction or ownership of public land from the BLM to another entity. Such transfer would be accomplished using one of the following methods (in priority order): dispose of unneeded public land through exchange in order to consolidate public land interests in high resource value areas, transfer public land to other governmental agencies to fulfill that agency's mission, or, dispose of public land to meet expanding community needs.

"ENHANCEMENT OF NATURAL AND CULTURAL VALUES"

Decisions under this alternative would prescribe resource condition objectives and land use allocations which favor the protection or enhancement of natural and/or cultural values of at least local importance. Other uses of public lands would be subordinated and allowed only if the approved actions would have positive or no effects on the identified natural or cultural values. Many areas with regional or state-wide biological importance are identified for acquisition and public stewardship.

"RESOURCE USE WITH NATURAL VALUES CONSIDERATION"

Decisions under this alternative would prescribe resource condition objectives and land use allocations which allow the development of economic resources on much of the public lands, encourage recreational use in regionally important areas, and protect natural (and cultural) values of regional, state, or national importance. Land acquisition is recommended in areas with regionally important recreational opportunities, regional (or better) biological value, or which enhance the manageability of public lands for all uses.

"RESOURCE USE"

The decisions under this alternative would be designed to provide the greatest opportunity for economic return from the utilization of public lands and the resources thereon. Resource utilization would continue to be constrained by law, regulation and policy. Land acquisition is recommended to enhance the management of forest products, facilitate mineral resources development, and benefit commercial recreation opportunities.

MANAGEMENT GUIDANCE AND DECISIONS COMMON TO ALL ALTERNATIVES

ACCESS AND TRANSPORTATION

Roads and trails would be managed in conformance with the "NO ACTION" management alternative until approval of the Final RMP. The transportation plan for the Redding Resource Area would then be amended to reflect the decisions made by this RMP. Specific access routes and transportation developments can not be reasonably identified until all activity level planning is completed subsequent to and consistent with the RMP. The transportation plan would be modified to remove unnecessary roads and trails and add access routes as detailed in the activity plans and, as necessary, project plans.

Since access and transportation requirements are site specific in nature, assessments of environmental impacts will not be considered within this RMP. Similarly, the environmental impacts due to the access needs of other public agencies or the private sector can not be reasonably addressed within this RMP. Consideration of environmental impacts for specific access and transportation developments are, therefore, deferred to

future planning efforts by BLM or other agencies as appropriate.

AIR QUALITY

Air quality degradation would be minimized through strict compliance with Federal, state, and local regulations and implementations plans. For example, air quality impacts from prescribed burns are limited by BLM Manual 7723 (Air Quality Maintenance Requirements), which requires a state-approved open burning permit prior to implementation. These impacts would be small in scale and dispersed through the planning area. Increasing off-highway vehicle use in open areas might accelerate soil erosion and increase dust emissions; however, dust suppression control devices would not be practical. Additional management activities include monitoring, analysis, and impact mitigation on a project-specific basis, which assure compliance with applicable regulations and implementation plans. In no case are significant adverse impacts to air quality expected under any of the land use management alternatives.

CULTURAL RESOURCES

Prior to approval of any Federal authorization on public lands, the BLM is obligated to comply with the National Historic Preservation Act. Section 106 of the act (as implemented under 36 CFR 800 and a Programmatic Memorandum of Agreement among the California Office of Historic Preservation, the President's Advisory Council on Historic Preservation and BLM) requires identification and full consideration of any historic or archaeological sites located within a project area or on lands identified to transfer to any non-Federal entity. An agreement with the State Lands Commission provides a mechanism for minimizing damages to cultural resources in the conveyance of public lands to the Commission. Consideration of cultural resources requires an evaluation of resource value and susceptibility to direct and indirect impacts. Significant archaeological or historic sites will not be damaged by BLM-authorized undertakings or transferred from Federal jurisdiction without appropriate impact mitigation measures.

Review of a mining notice does not involve a discretionary decision-making on the part of the BLM and therefore does not constitute an undertaking as specified in Section 106 of the National Historic Preservation Act of 1966 and is not subject to procedural requirements of 36 CFR 800. However, 43 CFR 3809 specifically provides for the protection of cultural properties by prohibiting mining operators from knowingly

disturbing or damaging them. The need for a cultural resource field inventory in response to a notice of intent should be determined on the basis of professional judgment and is left to the discretion of the Redding Area Manager. Indirect impacts to cultural resources resulting from improving road access into formerly remote areas are recognized as potentially adverse. Current research will determine if and where these impacts are occurring. Impacts to cultural resource values in the form of artifact breakage or destruction of structural features resulting from vehicle activity associated with prospecting could also occur.

BLM Manual 1623.1 requires that all cultural resources known or expected to occur on public land within the planning area (Redding Resource Area) be managed for their information, public, or conservation values. Furthermore, BLM must identify specific direction which will assist in managing these cultural resources for the stated values. Due to the land ownership changes proposed under various land use management alternatives, decisions regarding specific management objectives for cultural resources are deferred until development of subsequent activity plans.

General management direction applicable to all cultural resources and land use management alternatives include: administrative and physical measures to protect sites, monitoring of known sites on lands in long-term BLM administration, surveillance by law enforcement personnel in problem areas, and use of qualified organizations or the public in cooperative study of cultural resources. Public education, research, the excavation of archaeological resources, and involvement of interested parties (principally Native American Indians) must conform with the Archaeological Resources Protection Act.

Under the American Indian Religious Freedom Act, it is the policy of the United States to protect and preserve the right of native peoples to believe, express, and exercise their traditional religious beliefs. BLM must conform with this expression of First Amendment rights. Prior to authorizing any surface disturbing action or approval of land uses, BLM solicits appropriate consideration of Native American Indian concerns including any potential impact to traditional beliefs and heritage values. Analysis of these specific concerns is deferred to preparation of activity plans, project plans, and associated environmental analyses. BLM has, however, solicited Native American Indian input for consideration in developing land use management alternatives in this RMP.

FIRE MANAGEMENT

Any fire occurring on public lands would be suppressed. Areas of Critical Environmental Concern, Special Recreation Management Areas, Wilderness Areas, Wilderness Study Areas, Wild and Scenic River corridors (study and designated), and certain other public lands will require modified suppression techniques to protect the known values. Modified suppression techniques will be identified in subsequent activity plans for these critical areas.

Prescribed burn plans for hazard reduction and vegetation management activities include appropriate environmental analyses in conformance with the National Environmental Policy Act. No specific areas are identified in this RMP and assessment of environmental consequences is deferred to activity and project planning phases.

FOREST AND WOODLAND MANAGEMENT

The Redding Resource Area forest management program is operating under the "Timber Management Environmental Assessment for Sustained Yield Unit 15", referred to as SYU-15. SYU-15 considered four different levels of timber harvest and specific mitigation measures. The analysis concluded that no significant impacts to the natural or human communities would result from the implementation of any of the alternatives (management intensities) except for the impacts on old-growth dependent wildlife species.

The specific timber management criteria (harvest methods, silvicultural systems and mitigation measures) discussed in SYU-15 will remain common to all RMP land use management alternatives for all management areas. The intensity of management may change by management area; however, it will not exceed the management intensity of SYU-15 Alternative 1 (Preferred Alternative) which was selected and implemented in 1981.

The only exceptions to guidance provided by SYU-15 is when the Available Commercial Forest Land (ACFL) is managed for the enhancement of other resources. Two examples of this situation are Owl Habitat Areas (O.H.A.'s) and Wild and Scenic River corridors. This category of management would not eliminate forest management activities in O.H.A.'s but such activities would be permitted only to enhance the habitat of the northern spotted owl. Forest management activities within designated or study corridors of the National Wild

and Scenic River System would not be allowed to detract from the outstandingly remarkable values which led to their designation or determination of eligibility.

Any impact to the economy (positive or negative) of the local communities caused by the increase or decrease of timber harvest in the RMP alternatives is insignificant. When considered on a regional basis (the Redding Resource Area) this office manages approximately 1.2% of the total commercial forest land base and contributes approximately 0.4% of the total timber harvest. Both figures are considered to be insignificant.

Prior to SYU-15 the Timber Production Capability Classification (TPCC) inventory was conducted to determine which lands were forested. The forested lands were further classified as commercial - non-problem; commercial - restricted; withdrawn; woodlands; and non-commercial. The TPCC inventory indicated a total of 40,227 acres of available commercial forest land referred to as the "timber base". The allowable sale quantity from the timber base was set at 5.5 million board feet. Through recent TPCC inventories 1,076 acres of the original timber base have been determined to be unsuitable for management as commercial timber resulting in an available commercial forest land base of 39,151 acres in the existing (No Action) situation.

Approximately 77,000 acres of woodlands were identified during the TPCC inventory. Management of these lands is generally limited to the harvest of minor forest products such as fuelwood, posts and poles, when such harvest is not in conflict with the management of other resources.

The selection of the proposed action and the implementation of the RMP will have an effect on the available commercial forest land acreage and the associated allowable harvest. Since many decisions cannot be implemented immediately, any increase or reduction in the timber base will occur slowly. As a result the available commercial forest land and the associated allowable harvest will be in flux for several years. For this reason the Resource Management Plan will not establish an allowable harvest level.

Specific impacts due to forest and woodland management practices will be considered prior to project implementation. Special status species (including the spotted owl) which are dependent on old-growth forests

are managed and protected in conformance with the management guidance stated in this chapter under "Special Status Species" and "Spotted owl".

Lands available for "intensive" management of forest products are areas where forest management is the primary use and where other resources or values occur but are not emphasized. "Restricted" management refers to areas where multiple use or other resource values are emphasized but timber harvest occurs. The "enhancement of other uses" category includes forest management activities specifically for the benefit of other resource uses or values. No forest management is planned in the areas classified as "not available". The intensive, restricted, and enhancement of other uses categories combined constitute the "available commercial forest land" (ACFL) which is the acreage used to calculate an annual allowable harvest. The acreage distribution for each category is shown in Appendix G.

Although the acreage in the "enhancement of other uses" category is included in the ACFL, its contribution to the annual allowable harvest will be minimal due to the 85-95 percent reduction in timber harvest imposed by the severe management restrictions placed on land in that category. Management practices would be determined by the needs of the resources that are to be improved. Some examples would be small patch cuts to improve browse or other habitat needs; selected trees could be removed for public safety or to improve the view from a scenic over-look; biologists may prescribe certain stand manipulations to improve spotted owl habitat; salvage may be implemented following catastrophic events such as fire, insect epidemics or landslides.

Available commercial forest land acreage that is designated for disposal in this plan will be classified as "restricted management" and will be managed until transferred from BLM administrative jurisdiction. The restricted management actions on the disposal lands would not permit any long term investment or commitments but would allow actions necessary to protect or maintain current or potential value of the resources. Timber may still be harvested but it would be accomplished using temporary easements, limited road construction and harvest methods that will minimize the need for reforestation. These management actions should not diminish the ability of the land to be exchanged or sold. Actions that would be allowed include but are not limited to the following:

- pre-commercial thinning
- seedling protection and release
- sanitation/salvage timber harvest
- planned selection harvest.

When forest management is not mentioned in the alternative description as a resource condition objective, timber harvest may occur only for the enhancement of other resources or if not in conflict with the management of natural or cultural values.

HAZARDOUS MATERIALS MANAGEMENT

Hazardous materials management is carried out under the authorities contained in the Resource Conservation and Recovery Act of 1976 (as amended), the Federal Water Pollution Control Act as amended by the Clean Water Act of 1977, the Comprehensive Environmental Response, Conservation, and Liability Act of 1980 as amended by the Superfund Amendments and Re-Authorization Act of 1986.

The U.S. Coast Guard and Environmental Protection Agency have overall responsibility to ensure that spills of oil or hazardous material are properly and adequately abated. All major spills and many other discharges will be handled by one of these agencies. These agencies can and may delegate the authority for spill abatement to other agencies, both State and Federal.

Contingency plans prepared by the BLM State Office and BLM District Office provide updated guidance for handling hazardous materials incidents.

The Redding Resource Area's primary hazardous materials workload consists of cleaning up drug lab dumps, abandoned used oil, chemicals at abandoned mine sites, and various hazardous materials on occupancy trespass sites. These activities will occur in all land-use management alternatives. Public land consolidation under all alternatives should diminish present levels of all types of trespass including hazardous materials dumping on public lands under BLM administration.

HYDROELECTRIC AND WATER STORAGE

Potential waterpower/storage reservoir sites under a land withdrawal will continue to be managed for waterpower values. Exceptions include withdrawals for waterpower or storage on streams which become com-

ponents of the National Wild and Scenic Rivers System or if public lands are transferred from Federal jurisdiction. In these instances any existing withdrawals will be recommended for revocation.

Potential sites not presently withdrawn would be identified and restrictively managed for waterpower/storage sites. Unnecessary uses that might endanger the waterpower or reservoir values would be avoided. Before any uses would be allowed that might endanger the waterpower or storage values, the Federal Energy Regulatory Commission (FERC) would be contacted to determine whether the site is still not withdrawn. Sites would continue to be identified, investigated, evaluated, and recommended for withdrawal, as needed.

LANDS AND REALTY

The goal of the lands program is to transform the scattered land base of the Redding Resource Area into consolidated resource management units to meet the needs of public land users. This goal will be pursued primarily through exchange opportunities followed by some Recreation and Public Purposes Act leases and patents. Sale of small-acreage, low-value parcels will be considered only in some cases to resolve inadvertent trespass or when subject parcels cannot reasonably be exchanged.

Land Tenure Adjustment

All land identified for disposal through exchange, Recreation and Public Purposes Act transfer or sale in this RMP meets the criteria set forth in the Federal Land Policy and Management Act (FLPMA) of 1976.

BLM's ability to dispose of land in this RMP may be constrained by the existence of withdrawals. BLM will not dispose of withdrawn land until the withdrawal designation has been lifted. FLPMA Section 204(K)(1) requires review of all withdrawals affecting public lands. Land that becomes unencumbered through the withdrawal review process will then come under the guidance of decisions made in this RMP.

Currently it is BLM policy not to dispose of public land encumbered with properly recorded mining claims. However, disposal actions under Sections 203 and 206 of FLPMA and the Recreation and Public Purposes Act of June 14, 1926, as amended, may occur if: (1) the mining claims are determined void due to failure by the claimant to comply with Section 314 of FLPMA, 43 USC 1744 (1982) and 43 CFR 3833.2-1; (2) the mining claim

is contested and found to be invalid; or (3) a change in current policy allows for the disposal of public land encumbered with mining claims.

Any land identified for disposal through sale or exchange will be evaluated for significant cultural resources, threatened and endangered plants and animals, mineral potential, floodplain/flood hazards, hazardous waste, and prime and unique farmland, before actual transfer of the land can be considered and acted upon in compliance with the National Environmental Policy Act.

Patent restrictions or conservation easements may be used in certain cases to protect special status species, significant cultural resources or other public interests associated with parcels of land subject to disposal. In cases where protection of these values is doubtful, BLM may abandon the disposal action.

Communication Sites

Communication site applications will continue to be considered on land suitable for disposal until such time as an exchange agreement is signed. On public lands retained or acquired, communication site plans will be developed.

Land Use Authorizations

Land use authorizations (rights-of-way, leases, permits) will continue to be issued on a case-by-case basis and in accordance with decisions established in this RMP. Applications for land use authorizations which reduce the market value of a "development potential" exchange parcel will not be authorized.

Rights-of-way will be issued to promote the maximum utilization of existing rights-of-way routes, including joint use whenever possible.

Utility Corridors

Designated corridors include all existing or occupied corridors delineated in the Western Regional Corridor Study of 1986 with the following exceptions:

Avoidance Areas

Avoidance areas include Butte Creek, and portions of the Sacramento River Management Area. The Western Regional Corridor Study, 1986, displays an "un-occupied corridor" which would impact public land in the

Sacramento River Management Area. Impacts to the area can be avoided by shifting the corridor slightly to the east of the management area. No additional corridors will be permitted in the Sacramento River Management Area (excepting a two-acre aerial communications site on Inks Ridge); the Trinity River, Klamath River, and Shasta River viewsheds (excepting perpendicular crossings of the rivers); and, Gene Chappie / Shasta Off-Highway Vehicle Area outside of the Western Regional Corridor routes.

Exclusion Areas

BLM wilderness areas, i.e. Yolla Bolly, Ishi, and Tunnel Ridge

Existing Transportation Corridors

The Resource Area presently encompasses over 1,000 parcels in five counties which are served by extensive transportation systems. Many parcels are crossed by public or private roads. Although most public roads are depicted on maps included with this document, private roads are not shown.

Recreation and Public Purposes Act (R&PP)

Under the R&PP Act, BLM has authority to lease or patent public land to governmental or nonprofit entities for public parks, building sites, correction centers or for other public purposes. R&PP leases and patents will be issued in accordance with the decisions set forth in this RMP and will be processed under the requirements of the National Environmental Policy Act.

Public Land Withdrawals and Classification

BLM will review existing or proposed withdrawals and classifications in light of RMP decisions. No lands were identified or found suitable under this RMP for agricultural entry.

Existing and planned BLM physical improvements represent expenditures of public money. In an effort to protect these expenditures from destruction by locatable mining, or loss via patenting of mining claims, the following will occur: All BLM improvements (e.g. trails, campgrounds, roads, interpretive sites) existing or planned to be placed on public lands, will be immediately noted on the Master Title Plats as easements or reserved rights belonging to the U.S. Government. These notations will serve as public notice that there are prior existing rights established on the public lands and

that any new rights established (e.g. mining claims) will be subject to the noted improvements. Mining activity may not take place without permission from, and compensation to, BLM, when these noted improvements would be impacted by mining activities.

All significant non-linear BLM facilities and developed sites (e.g. campgrounds, fish rearing facilities, day use areas) will be withdrawn from locatable mineral entry to protect capital investments from the adverse effects of mining and loss of Federal ownership in the case of patenting. The areas of withdrawal will vary by alternative, from the actual physical improvements themselves, to adjoining viewsheds and buffers around the sites.

Within those areas recommended for withdrawal from operation of some or all of the public land laws, including the mineral laws, new acquisitions will be closed to mineral entry.

All withdrawals stated in the land-use management alternatives, effecting closure to mineral entry, are recommended subject to Secretary of the Interior or Congressional approval.

In general, all actions proposed in this RMP not prohibited by specific terms of a withdrawal or classification will be carried out. Actions prohibited by the specific terms of the withdrawal or classification will remain in effect until such withdrawals are revoked or classifications terminated.

LIVESTOCK GRAZING

This program operates under the authority of Section 15 of the Taylor Grazing Act, BLM policies and the Redding Livestock Grazing Management Environmental Impact Statement. This document was approved in 1984 and subsequently implemented to improve or maintain ecological condition for perennial range and maintain or improve forage production on the annual range. Future management of livestock will continue to follow the prescriptions established in this document. Specific guidance from the document includes:

Site specific environmental analyses will be conducted prior to actual construction or treatment of proposed projects. Projects will, whenever possible, be modified to avoid or minimize identified negative impacts.

An analysis of potential effects on rare, threatened or endangered plants and animals will be required for each proposed project. If required, consultation with U.S.

Fish and Wildlife Service or California Department of Fish and Game will be initiated. Projects will be modified or abandoned to avoid impacts to officially listed rare, threatened or endangered plants or animals. Projects will also be deleted or modified if approval would result in the listing as threatened or endangered any sensitive species within the project area.

BLM will design livestock grazing and range improvement program to avoid adverse effects on properties included in, or eligible for inclusion in, the National Register of Historic Places, unless it is not prudent or feasible. BLM will consult with the State Historic Preservation Officer for purposes of developing a mutually acceptable mitigation plan when avoidance is not prudent or feasible.

All actions will be in conformance with visual resource management objectives.

All fences will be constructed to meet BLM design specifications.

Soils disturbed by range improvement construction will be reseeded with native and/or approved introduced species as soon as possible, unless it is determined to be unnecessary.

Prescribed burning of portions of large areas will be initiated in different years and will be reburned on a rotational basis in order to provide varied regrowth stages. Strips of vegetation will be left unburned. Burns will be conducted under conditions that provide desired fire intensity.

Allotment Management Plans will include best management practices as called for in Section 208 of the Clean Water Act and as described in "208 Water Quality Management Report".

Additional management guidance and decisions incorporated into this RMP include determinations on facilities maintenance, lease adjustments and manageability criteria for issuing grazing leases.

Allotment management plans will be developed in cooperation with grazing leases. All interested public will be given an opportunity to participate in the development of these plans.

Maintenance of structural improvements shall be provided by the user deriving the primary benefit from the improvement.

Livestock leases would be adjusted, if necessary, to reflect decreases in public land acreage available for livestock grazing use within an allotment as a result of land disposal.

Manageability is a realistic appraisal of grazing lease applications submitted to the Redding Area Office. Since BLM has a responsibility for sound management practices and must use fiscal resources wisely, grazing lease applications will be screened using the following criteria:

Size of Land Tract and Location

This is simply used as a guideline for preliminary assessment of management potential.

Number of Suitable Acres

Absence of suitable acres (as defined in Appendix A of the Redding Grazing Management Environmental Impact Statement of 1984) immediately places a grazing lease in the non-manageable category. Any acreage above zero makes the decision discretionary.

Number of Animal Unit Months (AUM's)

Less than 20 AUMs most often places a grazing lease in the non-manageable category. Twenty-one to 100 AUMs are generally considered the gray area where the manageability decision is discretionary and not weighed. Greater than 100 AUMs are considered manageable the majority of the time.

Other Dependency

No grazing lease is considered non-manageable if the operator has demonstrated a dependency on the public land for his or her livelihood.

Tract accessibility

Accessible tracts are generally considered manageable. Inaccessible tracts are discretionary.

Land Tenure Adjustment

In areas where BLM intends to exchange or transfer administration of public lands, new grazing preferences will not be established.

MINERALS

There are numerous Federal laws, regulations and policies, and State of California laws, which govern the development of energy and mineral resources on public land in the Redding Resource Area. Rather than listing every single authorization and regulation which effects mineral development, a summary overview of the way Federal minerals can be developed and the most significant applicable laws and regulations will be discussed.

Rights to minerals on Federal land are obtained by mining claim location, lease, sale or free-use permit, depending upon the mineral and the type of Federal land involved.

General Mining Law of 1872

All metallic minerals, such as gold, silver, copper, and certain non-metallic minerals, such as gypsum, talc, and bentonite, on open unappropriated Federal lands, can be obtained by locating and perfecting mining claims under the General Mining Law of 1872 as amended. Important aspects of this law briefly include the following. "Self initiation" through location of four types of mining claims (lode, placer, millsite, and tunnel site). Self initiation means that all open and unappropriated public lands are available for location of claims and mineral extraction without further government permission. No rents, royalties or compensation are derived by the US Government from mineral extraction. Annual assessment work of at least \$100.00 per claim must be performed in order to hold the claim against rival claimants. The owners of valid claims may receive patent (title) to the mineral and surface estates upon payment of \$2.50 or \$5.00 per acre to the Federal Government and passing of an on-the-ground validity examination. The location of mining claims, exploration and extraction of locatable minerals, and issuance of mineral patents on open public land is not a discretionary action of the BLM. Federal Regulations at 43 CFR parts 3700 and 3800 were issued to implement this act.

Surface Resources Act of 1955 (PL-167)

This act restricts uses on mining claims to those required for prospecting, mining or processing operations and reasonably incident (associated) uses. The Federal government was authorized to manage and dispose of surface resources on mining claims prior to the patent of the claim. This law also defined common varieties of sand, stone, gravel, pumice, pumicite, cinders and clay,

and excluded such mineral materials from location under the General Mining Law of 1872. These minerals are now salable under the Materials Act of 1947.

43 CFR 3809 Regulations

Locatable mineral development on the BLM managed public lands is subject to the 43 CFR 3809 Regulations which are authorized by the Federal Land Policy and Management Act of 1976. Three thresholds of development are recognized: casual use, Notice level and Plan of Operations level. Casual use level operations include activities which cause no, or minimal, surface disturbances, such as claim staking, work with hand tools, most suction dredging, and some underground work. Operations in excess of casual use are required to file a "Notice" to the BLM at least 15 days prior to the start of operations. The BLM does not approve or disapprove a properly submitted Notice, but merely reviews the Notice and can inform the miner on how to avoid "unnecessary or undue degradation" to public lands and resources. Mining operations which require Plans of Operations instead of Notices are: surface disturbance in excess of five acres, non-casual use operations in special category areas (wild & scenic river corridors and ACECs), and non-complying miners operating under a Notice. The filing of a Plan of Operation requires that an environmental assessment be prepared by BLM prior to the start of mining. Mitigation measures and reclamation bonding are often required as part of the approval of the Plan. All operations are required to prevent unnecessary or undue degradation to the public lands and resources and to abide by all applicable Federal, State and local laws and regulations.

Materials Act of 1947

This law authorized discretionary disposal from public land and Federal mineral estate of certain common variety minerals such as sand and gravel, stone, clay, pumice and volcanic cinders by sale. These mineral materials are sold at fair market value. Free use of these minerals can be permitted for noncommercial use by government and nonprofit agencies. Federal Regulations found at 43 CFR 3600 further define this act.

Mineral Leasing Act of 1920

This law removed deposits of coal, oil and gas, sodium, phosphate, and oil shale from disposal under the General Mining Law of 1872 and make such deposits subject to a leasing system. The law specifies rental and royalty rates, lease size, and terms for each leasable

mineral, and it provides for prospecting permits and competitive bidding for certain deposits. Leasing of minerals under this act is discretionary and the Secretary of Interior is given broad discretion in granting leases and permits. Federal Regulations at 43 CFR 3100 regulate oil and gas leasing; 43 CFR 3400 refers to coal management; and 43 CFR 3500 gives specifics for the management of solid leasable minerals other than coal or oil shale.

Geothermal Steam Act of 1970

This act authorized the leasing of geothermal resources and associated byproducts in public lands through competitive and noncompetitive leasing systems. This law is implemented by Federal Regulations promulgated at 43 CFR 3200. Leasing of geothermal resources is a discretionary action by the Department of Interior and such leases may be subject to any mitigation measures deemed necessary.

In order to avoid unnecessary or undue degradation, and to ensure the adequate reclamation of impacted public lands and resources, all new and existing locatable mineral activities will be subject to the "43 CFR 3809 Standards for Mining, Construction and Reclamation in the Redding Resource Area" (Appendix E). Some future changes are likely to be made to these standards in conformity with the RMP and regulatory authority. Additional changes to these standards may also occur as a result of the implementation of the California Surface Mining and Reclamation Act of 1975 on public lands by the appropriate State or local lead agencies.

There have been numerous requests for very small amounts of mineral materials from scattered locations within the Redding Resource Area. Federal Regulations at 43 CFR 8365.1-5(b)(2) allow for the free collection of reasonable amounts of "rock". Rock includes, but is not limited to, sand, gravel, cobbles, boulders, volcanic cinders, pumice, pumicite, and decomposed granite. This collection may be for personal and noncommercial use only. Collection may be made by hand or with hand tools only. One pick-up truck load (or equivalent) per year is hereby determined to be a "reasonable amount" in this Resource Area. Collection under this authority is not allowed in developed recreation sites and areas, or where otherwise posted or prohibited. Collectors are required to avoid unnecessary or undue degradation to public lands and associated resources, as defined by 43 CFR 3600.0-5(k) and will be held responsible for any needed reclamation work.

Based on past public demands for mineral materials, and a pro-active BLM minerals philosophy, community pit designations for mineral material extractions (43 CFR 3604.1) are hereby established on the public lands at the following locations:

Canyon Creek schist pit - T.33 N., R.11 W., Section 1, Lot 2 (part of)

Clear Creek - T.31 N., R.6 W., Section 36, Lots 2, 3, 4, 5, 7, 8, 9, 10; T.31 N., R.5 W., Section 31, E1/2NE1/4NW1/4, SE1/4NW1/4, Lot 2

Kett - T.32N., R.5W., Section 30, W1/2, NE1/4, Lots 5,6

Deadwood shale pit - T.33 N., R.8 W., Section 14, Lot 28

Hawkinsville - T.45 N., R.7 W., Section 11, Lots 75, 76, 86, 87

Cemetery Hole - T.33 N., R.8 W., Section 19, NE1/4/NW1/4

Douglas City East - T.32 N., R.9 W., Section 6, SW1/4SW1/4

Douglas City West - T.32 N., R.10 W., Section 1, W1/2E1/2SW1/4

Chapman Ranch - T.33 N., R.10 W., Section 19 SE1/4

South Sheridan Creek - T.33 N., R.10 W., Section 19, E1/2NW1/4NW1/4

North Sheridan Creek - T.33 N., R.10 W., Section 18, E1/2SE1/4SW1/4, NW1/4SE1/4

Oregon Gulch - T.33 N., R.10 W., Section 18, NW1/4NE1/4, NE1/4NW1/4

These designations constitute a superior right to remove mineral material as against any subsequent claim or entry of the lands. Such designations will be serialized and noted in the Master Title Plats. Fair market value appraisals of the mineral materials will be completed when needed and as time allows. Extractions may occur in a manner not in conflict with the management decisions in the RMP. Decisions to transfer public ownership of these lands may occur as a result of the selected alternative.

Unless otherwise noted in this RMP, or prohibited by law or regulation, all Federal geothermal, oil and gas, mineral estates on both public and split estate lands are open to pre- and post-lease exploration, geophysical operations, leasing and development. Standards for exploration and development and in some instances, stipulations which may limit exploration and development, will be imposed when needed. The following stipulation and notices will be added to fluid minerals (geothermal, oil and gas) leases, as needed. The same restrictions placed on mineral leasing also apply to geophysical operations.

No surface occupancy stipulations for future leases of fluid minerals have been identified in the proposed action to protect various identified resources at specific locations. A generic "no surface occupancy" stipulation is shown, which will be modified during lease formulation to reflect the specific resource condition objectives and land use allocations on the effected lands to be leased.

No Surface Occupancy Stipulation

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

For the purpose of: (reason for stipulation).

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

BLM interim management of rivers determined eligible for inclusion in the National Wild and Scenic Rivers System will necessitate that a no surface occupancy stipulation be placed on any mineral lease offered within 1/4 mile of these rivers. The purposes of this stipulation are to protect the outstandingly remarkable values and maintain the river classifications which are identified in Appendix A.

Unless stated otherwise elsewhere in the RMP, all areas to be withdrawn from locatable mineral entry will also have the stipulation of "No Surface Occupancy" placed on any mineral leases issued in these areas.

A processing delay notice for fluid minerals leases will be used to protect sensitive plant species and their habitat from the surface disturbing effects of fluid minerals development. BLM's current knowledge of the location of these is due to a limited, but increasing, inventory base, and a constantly changing list of plant species which are considered sensitive species. This

notice will be included in new mineral leases which occur on lands identified as having suitable habitat for these species. A copy of this processing delay notice is shown as follows.

Lease Notice for the Protection of Sensitive Plant Species

The leased lands may support populations of plant species that are candidates for Federal listing as endangered or threatened species or that are considered by BLM to be sensitive species. Before any surface disturbing activity may be authorized, BLM must determine the distribution of any such plant species and the effects of the proposed surface disturbing activity on the plant species. Such information must be collected at the appropriate time of the year to identify and inventory the plant species in question. The required information relative to sensitive plant species may be collected by a botanist employed by the lessee, if approved by the Authorized Officer, but the information must still be collected at the appropriate time of year. Depending on the timing of the lessee's application for development, it may take up to a year for BLM to process the development application. In cases where impacts to sensitive species are anticipated, the Authorized Officer may place restrictions on the lessee's Surface Use Plan of Operation to protect these plants.

A fluid minerals lease notice for the protection of threatened and endangered species will be included on all leases where these species are thought to exist. Current inventory is not sufficient to define all these areas at the present time. A generic copy of this notice is shown as follows.

Lease Notice for the Protection of Threatened and Endangered Species

The leased lands are in an area suitable for the habitat of the (Common Name), (Scientific Name), a (Plant/Animal) species which is Officially Listed/Proposed for Listing as a(n) (Threatened/Endangered) species. All viable habitat will be identified for the lessee/operator by the Authorized Officer of the (Surface Managing Agency) during the preliminary environmental review of the proposed surface use plan. If the field examination indicates that Threatened and Endangered Species habitat is present, then formal consultation with the U.S. Fish and Wildlife Service (see Section 7 of the Endangered Species Act of 1973, as

amended) will determine whether or not the proposed activity would jeopardize the continued existence of the species. This consultation may require additional time to process the lessee's/operator's proposal, and may result in restrictions to the proposed operations, including denial of surface disturbance in the Threatened and Endangered Species habitat, or requirements to compensate for Threatened and Endangered Species habitat loss.

When existing mineral leases expire, the affected lands will be subject to the requirements of this RMP for any new exploration, leasing, and development actions.

The leasing of coal in the Redding Resource Area is not considered in the RMP due to the potential environmental impacts of surface mining, potential conflicts with other resources, lack of a positive monetary return to the U.S. Government, incompatible adjoining land uses, apparent lack of public demand, and a lack of a known significant resource base. Any future decision to lease coal will require an RMP amendment.

RECREATION

Management decisions and guidance for recreation management consist of determinations for recreation management objectives, as defined by the Recreation Opportunity Spectrum (ROS) system, withdrawals to protect developed facilities, camping limits, and off-road (motorized) vehicle use designations.

Recreation Opportunity Spectrum

ROS prescriptions will be assigned to all public lands within Special Recreation Management Areas (SRMA) and other areas where recreation is a specific resource condition objective (e.g., Upper Klamath, Forks of Butte Creek, middle Klamath, etc.) ROS management classes will not be prescribed for other public lands within the Resource Area.

Withdrawals

All recreation developments on public lands will be protected through withdrawal from the operation of the public land laws, including the mining laws. The developed sites, facilities, and sufficient surrounding area to protect the use or experience opportunity (for which the facility or development was created) will be recommended for withdrawal.

Camping Limit

Camping on all public lands open to camping within the Redding Resource Area, including developed campgrounds, will be limited to a maximum of fourteen days per calendar year.

Off-Road Vehicle Designations

Off-road vehicle use designations will be prescribed for all public lands covered under the plan which will remain under BLM administration. No designations are offered on public lands identified for exchange or administrative transfer.

SPECIAL STATUS SPECIES

Background

The Endangered Species Act (ESA) of 1973 as amended directs the designation, conservation, and management of officially listed threatened and endangered plants and wildlife and their critical habitats. The management of such species and habitats is non-discretionary and often restrictive in terms of management options.

Although only threatened and endangered species are addressed specifically in the ESA, it is within the overall intent of that act to manage other plants and wildlife so as to minimize the need for additional listings. Congress has indicated its concern for these other species through the referencing of several acts, conventions, and treaties within subsection 2(a) of the ESA. There is an implied commitment to the conservation of all plants and wildlife and their habitats so as to prevent additional listings. From this commitment to unlisted species has arisen the special status species concept.

Policy

It is BLM policy to ensure that the crucial habitats of special status species be managed to minimize the need for listing those species by either the Federal or California State Government in the future (BLM Manual Section 6840). This policy does not necessarily eliminate other uses of special status species' crucial habitats, but consideration of special status species habitats must be included in all decisions affecting the public lands. Where downward trends in population numbers and habitat conditions exist, positive management actions, such as development of Habitat Management Plans (HMP's), are appropriate. Where project impacts to

special status species cannot be avoided, it may be appropriate to mitigate or compensate for those impacts elsewhere within the species' range in California.

Federally listed threatened, endangered, sensitive and State-listed species would be inventoried, monitored, and efforts made to improve habitat for recovery of the species. Reintroduction or additional releases of Federal or State listed species would be enacted after proper compliance with the National Environmental Policy Act and consultation with U.S. Fish and Wildlife Service, California Department of Fish and Game and California Natural Diversity Data Base and any other affected parties.

Goal

The goal is to manage the public lands so as to prevent deterioration of special status species' habitat thereby precluding the need for State or Federal listing of those species. This goal includes the following objectives:

- A. Recognize certain special status species of plants and wildlife which merit attention in the management of the public lands. Refer to Appendix D for a list of special status species on public lands within the Redding Resource Area.
- B. Minimize the decline of those species designated as special status through the mitigation of resource management impacts.
- C. Promote the enhancement of special status species through positive management of their habitats and populations.

SPOTTED OWL

Spotted owls (*Strix occidentalis caurina*) are mentioned separately due to their recent listing as "Threatened" by the U.S. Fish and Wildlife Service. The following management guidance shall apply to BLM approved, authorized, or initiated actions within the range of the Northern Spotted Owl.

The BLM will continue its ongoing inventory of Northern Spotted Owl habitat. Barring unforeseen circumstances, BLM intends to complete all necessary field inventories of habitat on public lands before 1993. Inventories will be conducted in the manner prescribed by the Spotted Owl Subcommittee, as depicted in the U.S. Forest Service publication Spotted Owl Inventory and Monitoring Handbook (1988), as amended.

When inventories of public land are completed, a Northern Spotted Owl management plan will be prepared in cooperation with the State of California and the U.S. Fish and Wildlife Service. The intent of this plan is to ensure the continued survival of this species of owl. This plan will determine how the generally small and scattered parcels of BLM administered public land can benefit the species. This plan will consider quality and quantity of habitat with regard to adjacent habitat replacement areas. Linkages to nearby U.S. Forest Service Habitat Conservation Areas and other public managed habitat (e.g. National Park Service, State Parks, etc.) will be explored. BLM administered parcels of public land will be considered in the maintenance of the original distribution of the species through this multiple-agency cooperative effort.

Until this Northern Spotted Owl management plan is completed, the following interim management guidance will apply to all discretionary BLM actions. All habitat within each potential project area (e.g. timber sales, rights-of-way, land exchanges, etc.) will be inventoried and monitored in conformance with the protocol prescribed in the U.S. Forest Service publication noted above. If a potential project is determined to have an impact on a northern spotted owl or its habitat, BLM will initiate consultation procedures with the U.S. Fish and Wildlife Service in accordance with the regulations implementing Section 7 of the Endangered Species Act of 1973, as amended (50 CFR 402). BLM must reach an agreement with the U.S. Fish and Wildlife Service on all conflicts that might occur due to these potential projects.

In addition to the procedures outlined here concerning the identification and project review in areas containing northern spotted owls or important spotted owl habitat, the BLM recognizes the importance of specific areas that will be managed to help sustain the northern spotted owl population. These areas, Owl Habitat Areas (O.H.A.'s) will be managed by the Redding Resource Area BLM to enhance spotted owl habitat, will be identified for transfer under various land use alternatives under the stipulation that they be managed as Owl Habitat Areas, or exchanged for other lands which have high quality or quantity spotted owl habitat.

Forested areas on public land within O.H.A.'s would be managed for the "enhancement of other resources". This category of management would not eliminate the harvest of trees, or other forest management activities, but such activities would be permitted only to enhance the habitat of the northern spotted owl. Some of the

management practices that will be used to protect and enhance the spotted owl and its' habitat include: allowing no disturbing activities within 1/2 mile of an existing activity center of a pair of spotted owls; enacting seasonal closures on activities that could disturb spotted owls during the breeding season; enhancing habitat through the silvicultural prescription of old growth, uneven age management-creating multiple layered, old growth tree stands; converting denuded (non-forested) areas into healthy forested stands; creating large standing snags through tree girdling and ensuring the presence of down logs.

These Owl Habitat Areas correspond to the Habitat Conservation Areas designated within the publication, "A Conservation Strategy for the Northern Spotted Owl" and may be refined pending the preparation of a Recovery Plan by the U.S. Fish and Wildlife Service.

These Owl Habitat Areas specifically include the following parcels:

Eastman Gulch in the Trinity Management Area (T. 33 N., R.8 W., Section 2,3) 1100 acres

Iron Dyke in the Klamath Management Area (T. 48 N., R.8 W., Section 22) 80 acres.

Crater Creek in the Scott Valley Management Area (T. 42 N., R.7 W., Section 35) 210 acres.

Of the three Owl Habitat Areas mentioned above, two (Crater Creek and Eastman Gulch) are included within the key areas to be assessed within the Environmental Consequences section of this document. The third Owl Habitat Area (Iron Dyke), was not included within the key area analysis because it is identified for transfer to the U.S. Forest Service under all land-use management alternatives.

SOIL RESOURCES

The maintenance and improvement of soil cover and productivity would continue to be accomplished through preventive measures and land treatments under all land use management alternatives. Preventive measures would be brought forward in project planning and environmental analyses. Preventive measures typically include the avoidance of high erosion areas, restrictions on type and season of use and closure to certain uses, forest management, vehicle use, such as grazing or mineral development. Land treatments would be identified where excessively eroded public

land could be stabilized. Land treatments include reseeding grasses and forbs to reestablish ground cover, contour furrowing, imprinting, and the construction of water control structures.

VEGETATION MANAGEMENT

The California State Office of BLM has prepared the California Vegetation Management Final Environmental Impact Statement (FEIS) of 1988. This FEIS was prepared in order to comply with a Ninth Circuit Court ruling that a "worst case analysis" must be prepared prior to herbicide use on public land. Besides simply addressing chemicals, other methods of vegetation manipulation which might be used in meeting objectives of BLM land use plans were addressed in the FEIS.

The decision of the FEIS, dated November 7, 1988, allows for the consideration of herbicides as well as the use of manual, mechanical and burning methods for vegetation control treatments. The decision also requires that before any vegetation treatment can be undertaken, a site specific environmental assessment (EA) will be prepared and public involvement will occur in accordance with Council on Environmental Quality regulations. In applying herbicides, BLM will follow the environmental protection measures outlined in the FEIS or more restrictive measures outlined in the site specific EA. The California Vegetation Management Final Environmental Impact Statement and the associated Record of Decision are available for review at the Redding Resource Area Office.

Vegetation management will occur as a secondary benefit or impact in many BLM activities such as grazing, timber harvest, wetland construction, fire fighting, mining and special status species management. The impacts or benefits to vegetation will either be insignificant or will be addressed in the site specific EA for the parent action.

A Desired Plant Community (DPC) has been developed for the Sacramento River Management Area and has been included in Appendix B. Other DPC's will be developed as specific activity plans are designed for the remainder of the Redding Resource Area.

VISUAL RESOURCES

All BLM management actions must conform with the objectives of the assigned Visual Resource Management (VRM) Class. BLM will ensure that Bureau approved or authorized actions meet these long term

objectives. VRM prescriptions, however, will be limited to only those areas assigned VRM Class I and Class II. Prescriptions will not be assigned to areas where lower visual resource management classes have been determined. Visual resource management within designated wilderness and wilderness study areas must conform with the protection of wilderness values including scenic quality.

WATER QUALITY

The BLM objective for water quality is to ensure that all waters on public land meet or exceed Federal and State water quality standards. Generally, BLM deals with non-point sources of pollution, which are addressed in Section 208 of the Federal Water Pollution Control Act Amendments of 1972 (PL-92-500) as amended by the Water Quality Act of 1987 (PL 100-4). The California State Water Resources Control Board has regulatory responsibility for water quality through its Regional Boards (Central Valley and North Coast within the Redding Resource Area). Additionally, the State may develop agreements with agencies like BLM for administration of water quality issues on the lands they administer. BLM coordinates with the Regional Boards to address water quality issues.

Impacts to water quality are prevented or reduced through the application of specific mitigative measures identified in project planning and environmental review. Where feasible, watershed improvement projects would be implemented to increase ground cover and ultimately reduce erosion, sediment yield and other water quality contaminants from public land.

WILD AND SCENIC RIVERS

An inventory of rivers and streams within the Redding Resource Area was conducted to determine their eligibility for inclusion in the National Wild and Scenic Rivers System (Appendix A). Streams determined to be eligible for inclusion in this system have been classified and all public land within 1/4 mile of normal high water will be managed to protect the outstandingly remarkable values which led to their determination of eligibility. Under the No Action land-use management alternative, no consideration of Wild and Scenic Rivers was made.

Forested areas on public land within designated corridors or within 1/4 mile of streams determined eligible for inclusion in the National Wild and Scenic River System will be managed in a manner that will not detract from the outstandingly remarkable values which led to

their designation or determination of eligibility. These forested areas would be managed under the classification of "enhancement of other resources".

The following synopsis provides the preliminary classification(s) for each study stream determined as eligible for inclusion in the National Wild and Scenic Rivers System in all land-use management alternatives except No Action.

Battle Creek

Battle Creek (South Fork) between Ponderosa Way Bridge and Manton Road Bridge is classified as RECREATIONAL. The segment between Manton Road Bridge and 1/4 mile upstream of Coleman powerhouse is classified as SCENIC. The segment between 1/4 mile above Coleman powerhouse and Jellys Ferry Road Bridge is classified as RECREATIONAL. Between Jellys Ferry Road Bridge and the Sacramento River, Battle Creek is classified as SCENIC.

Beegum Creek

Beegum Creek between the Trinity National Forest boundary and Highway 36 is classified as WILD.

Butte Creek

Butte Creek between its confluence with the West Branch of Butte Creek and the Centerville Bridge is classified as SCENIC.

Clear Creek

Clear Creek between the boundary of the Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area and the Clear Creek Road Bridge is classified as SCENIC.

North Fork Cottonwood Creek

North Fork Cottonwood Creek between Misslebeck Dam and Platina Highway Bridge is classified as SCENIC.

Middle Fork Cottonwood Creek

Middle Fork Cottonwood Creek between the Trinity National Forest boundary and Little Bear Gulch is classified as RECREATIONAL. This creek between Little Bear Gulch and Platina Road (near Hundred Dollar Gulch) is classified as WILD.

South Fork Cottonwood Creek

South Fork Cottonwood Creek between the National Forest boundary and Maple Creek is classified as WILD. Between Maple Creek and Cooks Flat this stream is classified as SCENIC.

Deer Creek

Deer Creek between the boundary of the Ishi Wilderness and the Deer Creek Irrigation Ditch is classified as WILD.

Mill Creek

Mill Creek between the Lassen National Forest boundary and the gaging station is T. 25 N., R. 1 W., Section 6, is classified as WILD.

Paynes Creek

Paynes Creek between the gas pipeline near Highway 36 and the Sacramento River is classified as SCENIC.

Sacramento River

The Sacramento River between Balls Ferry Road Bridge and 1/2 mile below Jellys Ferry Road Bridge is classified as RECREATIONAL. Between 1/2 mile below Jellys Ferry Road Bridge and 1/2 mile above Bend Bridge, the river is classified as SCENIC. The river is classified as RECREATIONAL between 1/2 mile above Bend Bridge and Paynes Creek. Between Paynes Creek and the gaging station below Sevenmile Creek, the river is classified as WILD.

Shasta River

The Shasta River between the State Highway 263 bridge below Yreka Creek and the Klamath River is classified as RECREATIONAL.

Studies addressing the suitability of including these study corridors into the National Wild and Scenic Rivers System have been deferred until other local, State, and Federal agencies with responsibility in these streams can join in cooperative studies. Criteria used to recommend these deferrals and establish the above preliminary classifications are included in Appendix A of this RMP.

WILDERNESS

No new determinations regarding inclusion of public lands within designated Wilderness Areas are made in this RMP. Portions of two designated Wilderness Areas (Ishi and Tunnel Ridge) remain constant through all land use management alternatives. The existing Memorandum of Understanding between BLM and the U.S. Forest Service covering both the Ishi and Trinity Alps Wilderness areas will remain in full force and effect unless BLM portions of these wildernesses are transferred to U.S. Forest Service jurisdiction. One Wilderness Study Area (Yolla Bolly) was recommended as unsuited for wilderness designation in the 1987 California Section 202 Wilderness Study Area (Wilderness Recommendations) Draft Environmental Impact Statement prepared by BLM. Under all land use management alternatives, the 640 acres of public land will be managed to protect any wilderness-related values pending final action by the Congress of the United States.

WILDLIFE AND FISHERIES HABITAT MANAGEMENT

All public lands in the Redding Resource Area are considered for enhancement and protection of the wildlife habitat resource to varying degrees in all land use management alternatives. Monitoring will continue in those areas where specific habitat types are crucial to the continued vitality of a wildlife population (e.g., fawning areas, raptor nesting areas, salmonid spawning areas, etc.) and in areas covered by existing (or proposed) Habitat Management Plans.

The following plans have been incorporated into this RMP through the development of resource condition objectives, land-use management alternative development, and/or the incorporation of BLM policy: Upper Sacramento River Fisheries and Riparian Restoration Plan (State of California, 1989), various Deer Herd Management Plans (California Department of Fish and Game), Fish and Wildlife 2000 (BLM Washington Office and California Office; and the North American Waterfowl Management Plan (U.S. Fish and Wildlife Service, 1986).

This RMP does not contain quantifiable resource condition objectives for wildlife and fisheries resources due to the tremendous changes of public ownership recommended in the various land-use management alternatives. Resource condition objectives with measurable goals will be specified in subsequent activity plans. Refined geographic focus and additional data will allow

quantification of objectives only at that level of natural resource planning.

Releases and re-introduction of native wildlife species could be authorized by the Area Manager, following proper compliance with the National Environmental Policy Act and coordination with the California Department of Fish and Game.

MANAGEMENT ALTERNATIVE DESCRIPTIONS BY MANAGEMENT AREA

(Includes Rationale for Proposed Action)

This section details each land use management alternative developed for each management area. The order of management area description parallels the order in CHAPTER 2 - AFFECTED ENVIRONMENT, i.e., Scott Valley, Klamath, Trinity, Shasta, Sacramento River, Ishi, and Yolla Bolly. Maps which portray each land-use management alternative are found in a map packet included with this document. Cadastral locations, i.e., township and range, on these maps and in the accompanying management alternative descriptions are related to the Mount Diablo Baseline and Meridian. The order of land-use management alternative description is the same for each management area, i.e., No Action, Administrative Adjustment, Enhancement of Natural and Cultural Values, Resource Use with Natural Values Consideration, and Resource Use.

Each land-use management alternative description consists of three individual planning elements:

Resource Condition Objectives are the goals established for each management alternative. They condition allocations, actions and unforeseen future proposals to conform with these goals. These objectives are listed in descending priority order, i.e., subordinate resource condition objectives must conform with the resource condition objectives listed previously.

Land-Use Allocations prescribe general management categories (e.g., visual resources and recreation opportunity classes), specific limitations to full resource use (e.g., leasable mineral restrictions), or formal designations (e.g., ACEC, wild and scenic river corridor, etc.) which are needed to meet the resource condition objectives and/or to comply with Federal law.

Management Actions are implementation measures which ensure that the resource condition objectives are met and alert the public and BLM to specific follow-up

actions which are anticipated to implement the land-use management alternatives. This planning element is not a comprehensive list of all actions necessary over the life of this RMP. It is, however, a list of actions which reasonably have programming and budgetary implications for BLM. Management actions are procedural steps needed to carry out BLM administrative responsibilities in conformance with this RMP. They are not management decisions.

SCOTT VALLEY MANAGEMENT AREA

MANAGEMENT AREA: SCOTT VALLEY

ALTERNATIVE: NO ACTION

MAP (in packet): MAP 3-1a

I. RESOURCE CONDITION OBJECTIVES

- A. Maintain the supply of forest products from all available commercial forest lands.
- B. Maintain existing range conditions.
- C. Maintain and improve deer winter range habitat conditions.
- D. Maintain and improve, if possible, overall resource management efficiency within the management area through land exchanges on an opportunity basis.

II. LAND USE ALLOCATIONS

- A. Maintain the existing level of timber harvest on 7,200 acres of available commercial forest lands. See Appendix G for acreage assigned to the various forestry management categories.
- B. Fuel wood is available from all forested lands.
- C. All suitable rangelands are open to grazing lease.
- D. Maintain the withdrawal for the Gazelle Mountain administrative site (40 acres for a look-out in T. 41 N., R. 7 W., Section 8, NE1/4 of SE1/4), and the Callahan refuse

transfer site (2.07 acres R&PP lease to Siskiyou County in T. 40 N., R. 8 W., Sections 7 and 17).

E. All lands are open to application under the R&PP Act on a case specific basis.

F. Lands are available for dispersed recreation.

G. Fourteen parcels of land encompassing approximately 1040 acres are available for disposal via sale.

H. All Federal interests not noted above in II D-G are available for exchange for higher public values elsewhere on a case-by-case basis.

III. MANAGEMENT ACTIONS

- A. Maintain a sustained yield harvest from the available commercial forest lands.
- B. Continue revocation of the withdrawal for the privately owned Oro Fino townsite.
- C. Pursue the existing exchange opportunities with Moffet Creek Ranch and other major private land owners within the management area.
- D. Work with Siskiyou County to resolve long-term public administration of the Callahan refuse transfer site.
- E. Cooperate with the California Department of Fish and Game in development of a Deer Habitat Management Plan to crush and burn decadent brushland within the management area.

MANAGEMENT AREA: SCOTT VALLEY

ALTERNATIVE: ADMINISTRATIVE ADJUSTMENT
(proposed action)

MAP (in packet): Map 3-1b

I. RESOURCE CONDITION OBJECTIVES

- A. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of public land interests within the Scott Valley management area.

B. Enhance resource management efficiency and the public service mission of local, state, and Federal agencies via transfer of jurisdiction of specific public lands from BLM.

II. LAND USE ALLOCATIONS

A. Transfer jurisdiction of public land within T. 45 N., R. 8 W., Section 26 to the Klamath National Forest.

B. Transfer via the Recreation and Public Purposes Act (R&PP) or exchange to the California Department of Corrections the parcel of public land east of McAdam Creek adjacent to the Deadwood Conservation Camp within T. 44 N., R. 9 W., Section 12.

C. Transfer via R&PP or exchange to a qualified agency or group the administration of the Cedar Gulch Cemetery within T. 43 N., R. 7 W., Section 18, NE1/4.

D. Transfer via R&PP or exchange to Siskiyou County the Callahan refuse transfer site in T. 40 N., R. 8 W., Sections 7 and 17.

E. Thirteen parcels of land encompassing approximately 720 acres are available for disposal via exchange or sale.

F. All public land interests not noted above in II A-E are available for exchange including the Crater Creek Owl Habitat Area of 210 acres (if this action has an overall benefit to the species).

G. All available commercial forest lands will be managed as "restricted" until transfer from BLM administration.

III. MANAGEMENT ACTIONS

A. Develop agreement and/or legislative amendment to modify the boundary of the Klamath National Forest to include the public land within T. 45 N., R. 8 W., Section 26.

B. Contact California Department of Corrections, Siskiyou County, and qualified public agencies respectively to acquire management responsibility of parcels noted in II B-D above.

C. Revoke the withdrawals for the Gazelle Mountain administrative site (T. 41 N., R. 7 W., Section 8, NE1/4 of SE1/4) and the privately owned Oro Fino townsite.

D. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange, sale, or administrative transfer.

MANAGEMENT AREA: SCOTT VALLEY

ALTERNATIVE: ENHANCEMENT OF NATURAL AND CULTURAL VALUES

MAP (in packet): MAP 3-2a

I. RESOURCE CONDITION OBJECTIVES

A. Quartz Hill

1. Maintain the existing visual quality of BLM administered lands.
2. Ensure the long term protection of the deer winter range habitat.
3. Protect raptors, including spotted owls, within the area.
4. Protect historic resource values.
5. Provide semi-primitive recreation opportunities.

B. Noyes Valley

1. Improve the condition of the deer winter range habitat.
2. Protect raptors within the area.

C. Remainder of Management Area

1. Enhance resource management efficiency and the public service mission of local, state, and federal agencies via transfer of jurisdiction of specific public lands from BLM.
2. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of certain public lands within the management area.

II. LAND USE ALLOCATIONS

A. Quartz Hill

1. Manage as Visual Resource Management (VRM) Class II.

2. Manage as Semi-Primitive Motorized

3. Vehicles are limited to designated roads which may be closed between November 15 and April 15 to protect the wintering deer herd.

4. Offer lands for mineral leasing with no surface disturbing actions permitted between November 15 and April 15.

5. Acquire unimproved available private lands within the area to enhance ability to meet the management objectives.

6. Manage forest products to enhance natural values. See Appendix G for acreage assigned to the various management categories.

B. Noyes Valley

1. Vehicles are limited to designated roads which may be closed between November 15 and April 15 to protect the wintering deer herd.

2. Offer lands for mineral leasing with no surface disturbing actions permitted between November 15 and April 15.

3. Consolidate and increase, if feasible, public ownership within the area.

4. Maintain the withdrawal for the Gazelle Mountain administrative site (T. 41 N., R. 7 W., Section 8, NE1/4 of SE1/4).

5. Manage forest products to enhance natural values. See Appendix G for acreage assigned to the various management categories.

C. Remainder of Management Area

1. Transfer jurisdiction of public land within T. 45 N., R. 8 W., Section 26 M.D.M. to the Klamath National Forest.

2. Transfer via the Recreation and Public Purposes Act (R&PP) or exchange to the California Department of Corrections the parcel of public land east of McAdam Creek adjacent to Deadwood Conservation Camp within T. 44 N., R. 9 W., Section 12.

3. Transfer via R&PP or exchange to Siskiyou County the Callahan refuse transfer site in T. 40 N., R. 8 W., Sections 7 and 17.

4. Transfer via R&PP or exchange to a qualified public agency or group the administration of Cedar Gulch Cemetery within T. 43 N., R. 7 W., Section 18 NE1/4.

5. Eleven parcels of land encompassing approximately 660 acres are available for disposal via exchange or sale.

6. Manage the public land in Crater Creek (T. 48 N., R. 8 W., Section 22) as an Owl Habitat Area in cooperation with the Klamath National Forest.

7. All public land interests not noted above in II A-C (1-6) are available for exchange.

III. MANAGEMENT ACTIONS

A. Develop an integrated resource activity plan for Quartz Hill to identify specific land acquisition needs, appropriate roads and trails which enhance semi-primitive recreation opportunities and sensitive resources which need permanent or intermittent protection from permitted activities.

B. Develop an integrated resource activity plan for the Noyes Valley deer winter range to identify specific land acquisition needs, roads necessary for public and administrative access, and sensitive resources which need permanent or intermittent protection

C. Publish Federal Register notice regarding vehicle designations.

D. Develop agreement and/or legislative amendment to modify the boundary of the Klamath National Forest to include the public land within T. 45 N., R. 8 W., Section 26.

E. Contact California Department of Corrections, Siskiyou County, and qualified public agencies respectively to acquire management responsibility of parcels noted in II C(2-4) above.

F. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange, sale, or administrative transfer.

G. Revoke the withdrawal for the privately owned Oro Fino townsite.

H. Develop a Memorandum of Understanding with the Klamath National Forest for the cooperative management of the Crater Creek Owl Habitat Area.

MANAGEMENT AREA: SCOTT VALLEY

ALTERNATIVE: RESOURCE USE WITH NATURAL VALUES CONSIDERATION

MAP (in packet): MAP 3-2b

I. RESOURCE CONDITION OBJECTIVES

A. Quartz Hill

1. Maintain the existing visual quality of BLM administered lands.
2. Maintain the supply of forest products from available commercial forest lands.
3. Emphasize, locateable mineral development.
4. Protect raptors, including spotted owls, that nest within the area.
5. Maintain the existing deer winter range habitat.
6. Maintain the existing semi-primitive recreational opportunities.

B. Noyes Valley/Duzel Creek

1. Maintain the supply of forest products from available commercial forest lands.
2. Maintain the existing condition of the deer winter range habitat.
3. Maintain the existing condition of the suitable rangelands.
4. Improve the condition of riparian vegetation within Duzel and Noyes Valley Creeks.

C. Remainder of Management Area

1. Enhance resource management efficiency and the public service mission of local, state, and federal agencies via transfer of jurisdiction of specific public lands from BLM.

2. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of certain public lands within the management area.

II. LAND USE ALLOCATIONS

A. Quartz Hill

1. Manage as VRM Class III.
2. Manage as Roaded Natural.
3. Vehicles are limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd.
4. Offer lands for mineral leasing with no surface disturbing actions permitted between November 15 and April 15.
5. Acquire unimproved lands to facilitate long-term forestry management.
6. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

B. Noyes Valley/Duzel Creek

1. Acquire unimproved lands to facilitate long term forestry management.
2. Vehicles are limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd.
3. Offer lands for mineral leasing with no surface disturbing actions permitted between November 15 and April 15.

C. Remainder of Management Area

1. Transfer jurisdiction of public land within T. 45 N., R. 8 W., Section 26 to the Klamath National Forest.
2. Transfer via the Recreation and Public Purposes Act (R&PP) or exchange to the California Department of Corrections the parcel of public land east of McAdam Creek adjacent to Deadwood Conservation Camp within T. 44 N., R. 9 W., Section 12.
3. Transfer via R&PP or exchange to Siskiyou County the Callahan refuse transfer site in T. 40 N., R. 8 W., Sections 7 and 17.

4. Transfer via R&PP or exchange to a qualified public agency or group the administration of Cedar Gulch Cemetery within T. 43 N., R. 7 W., Section 18, NE1/4.

5. Nine parcels of land encompassing approximately 540 acres are available for disposal via exchange or sale.

6. Manage the public land in Crater Creek (T. 48 N., R. 8 W., Section 22) as an Owl Habitat Area in cooperation with the Klamath National Forest.

7. All public land interests not noted above in II A-C (1-6) are available for exchange.

III. MANAGEMENT ACTIONS

A. Develop an integrated resource activity plan for Quartz Hill to identify specific land acquisition needs, appropriate roads and trails which enhance semi-private recreation opportunities and sensitive resources, i.e. raptor nesting and critical habitat, which need intermittent or permanent protection from permitted actions.

B. Develop an integrated resource activity plan for Noyes Valley/Duzel Creek to identify specific land acquisition needs and specific areas needs to enhance long term forestry management, maintain the deer winter range habitat, improve the condition of the riparian vegetation, and allow for necessary public and administrative access.

C. Publish Federal Register notice regarding vehicle designations.

D. Develop agreement and/or legislative amendment to modify the boundary of the Klamath National Forest to include the public land within T. 45 N., R. 8 W., Sections 26.

E. Contact California Department of Corrections, Siskiyou County, and qualified public agencies respectively to acquire management responsibility of parcels noted in II C(2-4) above.

F. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange, sale, or administrative transfer.

G. Revoke the withdrawals for the Gazelle Mountain administrative site (T. 41 N., R. 7 W., Section 8, NE1/4 of SE1/4) and the privately owned Oro Fino townsite.

H. Maintain a sustained yield harvest from the commercial forest lands.

I. Develop a Memorandum of Understanding with the Klamath National Forest for the cooperative management of the Crater Creek Owl Habitat Area.

MANAGEMENT AREA: SCOTT VALLEY

ALTERNATIVE: RESOURCE USE

MAP (in packet): MAP 3-3a

I. RESOURCE CONDITION OBJECTIVES

A. Quartz Hill

1. Maintain mineral development opportunities.
2. Maximize the supply of forest products from available commercial forest lands.
3. Protect raptors, including spotted owls, that nest within the area.
4. Maintain existing deer winter range habitat condition within the area.
5. Allow dispersed recreation.

B. Noyes Valley/Duzel Creek

1. Maximize supply of forest products from available commercial forest lands within the area.
2. Improve productivity of forest lands.
3. Enhance opportunities to explore and develop locateable mineral production.
4. Improve riparian habitat of Duzel Creek and upper Noyes Valley Creek.
5. Maintain existing deer winter range habitat condition within the area.

C. Remainder of Management Area

1. Enhance resource management efficiency and the public service mission of local, state, and federal agencies via transfer of jurisdiction of specific public lands from BLM.

2. Enhance the ability to acquire high value resource lands with the Redding Resource Area by disposal of certain public lands within the management area.

II. LAND USE ALLOCATIONS

A. Vehicles are limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd.

B. Transfer jurisdiction of public land within T. 45 N., R. 8 W., Section 26 to the Klamath National Forest.

C. Transfer via the Recreation and Public Purposes Act (R&PP) or exchange to the California Department of Corrections the parcel of public lands east of McAdam Creek adjacent to Deadwood Conservation Camp within T. 44 N., R. 9 W., Section 12.

D. Transfer via R&PP or exchange to Siskiyou County the Callahan refuse transfer site in T. 40 N., R. 8 W., Section 7 and 17.

E. Transfer via R&PP or exchange to a qualified agency or group the administration of Cedar Gulch Cemetery within T. 43 N., R. 7 W., Section 18, NE1/4.

F. Fourteen parcels of land encompassing approximately 1040 acres are available for disposal via exchange or sale.

G. All Federal interests not noted above in I A-B are available for exchange.

H. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acres assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Develop an integrated resource activity plan for Quartz Hill to designate vehicle roads and identify sensitive resources, i.e., raptor nesting areas and critical habitat, which need intermittent or permanent protection.

B. Develop an integrated resource activity plan for Noyes Valley/Duzel Creek to identify specific land acquisition needs, prescribe specific management needs to maximize the long-term supply forest products, delineate the stretches of Duzel and Noyes Valley creek in need of long-term protection, identify areas suitable for brush treatment to improve deer winter range habitat,

discuss administrative access needs, and designate vehicle roads.

C. Publish Federal Register notice regarding vehicle designations.

D. Develop agreement and/or legislative amendment to modify the boundary of the Klamath National Forest to include the public land within T. 45 N., R. 8 W., Section 26.

E. Contact California Department of Corrections, Siskiyou County, and qualified organizations respectively to acquire management responsibility of parcels noted in II C-E above.

F. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange, sale, or administrative transfer.

G. Revoke the withdrawals for the Gazelle Mountain administrative site (T. 41 N., R. 7 W., Section 8, NE1/4 of SE1/4) and the privately owned Oro Fino townsite.

H. Maintain a sustained yield harvest from the available commercial forest lands.

MANAGEMENT AREA: SCOTT VALLEY

RATIONALE FOR THE PROPOSED ACTION (ADMINISTRATIVE ADJUSTMENT ALTERNATIVE)

MAP (in packet): Map 3-1b

BLM administers a relatively small amount of scattered public land within this management area. The region, however, is dominated by public lands principally under the jurisdiction of the U.S. Forest Service. Current planning efforts by the Shasta and Klamath National Forests indicate that the middle elevations surrounding Scott Valley are not an area of long-term Forest Service stewardship interest. Therefore, bulk jurisdictional transfer to the U.S. Forest Service of the responsibility of BLM administered public lands would serve little long-term public interest.

The resource values within the management area have little apparent public value. Public demand and current

uses of these randomly placed parcels is very light due to the low resource values and the generally poor public access associated with these residual public lands. The public lands have limited potential for special status species habitat and generally low sensitivity for cultural resources. The dispersed available commercial forest land and suitable range can be administered in private ownership more efficiently to supply forest products and livestock forage for the benefits of the local population.

Deer winter range is a general resource management concern. However, little impact to the quality of the deer winter range is anticipated in the reasonably foreseeable future. Private land ownership within the deer winter range is dominated by large ranches. The current Siskiyou County General Plan zones the deer winter range for natural habitat protection, agriculture, rangeland, and timber production uses. These relatively low intensity uses coupled with large individual ownerships, conservation easements by California Department of Fish and Game, and development permit requirements of Siskiyou County help ensure the protection of deer winter range habitat during the life-span of this RMP. Federal ownership and administration of public lands within the deer winter range or the management area is, therefore, not critical.

The Scott Valley Management Area contains 2,172 acres of northern spotted owl habitat within three key areas of public land, i.e. Quartz Hill, Crater Creek, and

the Scott Valley Block. The vast majority of this key habitat is classified as "suitable" based solely on the presence of minimum forest composition standards mentioned in Chapter 4 - Impacts to Spotted Owl. The BLM administered habitat is, however, widely scattered and the actual use of this habitat by northern spotted owls has not been identified, excepting a solitary owl at Quartz Hill. The habitat represents a fraction of the known and occupied habitat within the central portion of Siskiyou County, principally within the Klamath National Forest. The threat to BLM administered habitat is mainly through forest management practices if transferred to the private sector via exchange. Impacts due to intensive land development are not expected based on existing and projected land uses within the key habitat areas. The BLM can better use this habitat of arguable value to aid in the acquisition of privately-owned spotted owl habitat of known importance within Trinity County or areas with critical biological value in Siskiyou County, e.g. the Shasta Valley wetlands, lower Shasta River, Horseshoe Ranch, Jenny Creek, and portions of the Klamath River. As a failsafe mechanism, a biological opinion of the U.S. Fish and Wildlife Service may preclude the disposal of specific public land parcels within these three key areas during the lifespan of this RMP. In summary, the potential biological benefits of this trade-off outweigh the potential negative impacts of BLM's worst case scenario.

KLAMATH MANAGEMENT AREA

MANAGEMENT AREA: KLAMATH

ALTERNATIVE: NO ACTION

MAP (in packet): MAP 3-1a

I. RESOURCE CONDITION OBJECTIVES

A. Horseshoe Ranch

1. Improve the existing deer winter range habitat in cooperation with California Department of Fish and Game.

2. Maintain the supply of forest products from productive forest land if not in conflict with deer winter range management.

3. Allow natural restoration of riparian zones to Class I.

B. Shasta River

1. Maintain chinook salmon spawning in the lower Shasta River.

2. Restore riparian vegetation to Class I.

C. Klamath River

1. Maintain water-oriented recreation opportunities along the river in cooperation with Oregon BLM, Pacific Power and Light, and the State of California.

2. Improve the condition of the riparian zone to Class II on anadromous fish streams.

3. Preserve and interpret the Osburger Gulch site.

4. Maintain the visual quality in the river condition upstream of Copco.

D. Remainder of Management Area

1. Maintain and improve the supply of forest products from available commercial forest land.

2. Maintain existing range conditions.

3. Maintain and improve, if feasible, deer winter range habitat.

4. Improve resource management efficiency within the management area through land exchanges on an opportunity basis.

5. Improve the steelhead spawning habitat in lower Dry Creek.

6. Protect the spotted owl habitat near Willow Creek Mountain in cooperation with the Klamath National Forest.

7. Protect waterfowl habitat in the Butte Valley Wildlife Area in conjunction with California Department of Fish and Game.

II. LAND USE ALLOCATIONS

A. Horseshoe Ranch

1. Area is closed to motorized vehicle use.

2. All Animal Unit Months (AUMs) are available for wildlife.

3. Additional AUMs may be allocated to livestock if such use improves the deer winter range habitat.

4. Acquire one section of unimproved private land (T. 48 N., R. 6 W., Section 27).

5. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

B. Shasta River

1. The riparian zone is closed to livestock grazing.

2. Vehicles are limited to designated roads and trails.

3. All existing public land within 100 feet above normal high water along both sides of Shasta River are designated as an Area of Critical Environmental Concern.

4. Developed weirs and adjoining 50 foot circumference are closed to any disturbance.

5. Acquire privately owned lands along the Shasta River from the confluence of Yreka Creek to the confluence with the Klamath River.

C. Klamath River

1. Manage as Roaded Natural.

2. 55 acres near the mouths of Osburger and Carson gulches (T. 46 N., R. 6 W., Sec 5, NE1/4 of SW1/4 of NE1/4, E1/2 of SW1/4 of SW1/4 of NE1/4 and T. 47 N., R. 6 W., Sec 32, SE1/4 of SE1/4) are segregated from mineral entry under a Classification for Multiple Use classification.

3. 40 acres at Carson Gulch (T. 46 N., R. 6 W., Sec 5, NW1/4 of SE1/4) are withdrawn from mineral entry by BLM for recreational developments.

4. Klamath River above Copco Lake is managed as VRM Class II and considered eligible for inclusion as a component of the National Wild and Scenic Rivers Systems. All public land within 1/4 mile of the normal high water mark will be managed in a manner which will not impair the outstandingly remarkable values and consistent with a preliminary classification as "Scenic".

5. Vehicle use is limited to designated roads and trails.

6. Acquire privately owned land along the Klamath River between the confluence with Shasta River and the boundary of the Klamath National Forest.

7. The area is open to livestock grazing.

D. Remainder of Management Area

1. Public lands are classified as Semi-Primitive Motorized.

2. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various categories.

3. 200 acres at Lennox Rock (T. 48 N., R. 4 W., Section 34) are withdrawn from mineral entry by BLM for recreational developments.

4. The BLM-administered portion of Lower Dry Creek is closed to livestock grazing.

5. 160 acres near Willow Creek Mountain (T. 46 N., R. 4 W., NE1/4 section 36) are administered by the Klamath National Forest in conjunction with a Forest Service spotted owl habitat area.

6. Maintain the withdrawal for the Hornbrook refuse transfer site (20 acres R&PP lease to Siskiyou County in T. 47 N., R. 6 W., Section 29, N1/2 of SE1/4 of NE1/4).

7. 1025 acres near Hawkinsville (T. 45 N., R. 7 W., Sections 2, 3, 10, and 11) are withdrawn from mineral entry under a small tract classification.

8. 80 acres within the Butte Valley Wildlife Area (T. 47 N., R. 2 W., Section 28) are administered by the California Department of Fish and Game.

9. Thirty-one parcels of land encompassing approximately 3,100 acres are available for disposal via sale.

10. All Federal interests not noted above in II A-D (3-8) may be available via exchange on a case by case basis for higher public values elsewhere.

III. MANAGEMENT ACTIONS

A. Horseshoe Ranch

1. Continue implementation of existing Habitat Management Plan in cooperation with California Department of Fish and Game.

2. Acquire one section of private land (T. 48 N., R. 6 W., Section 27)

B. Shasta River

1. Continue periodic monitoring and maintenance of developed fish weirs.

2. Maintain condition of facilities developed to exclude livestock grazing from the riparian zone.

3. Continue annual monitoring of the condition of the riparian zone.

4. Contact private landowners regarding cooperative management and/or land purchase to protect the Chinook spawning areas.

C. Klamath River

1. Amend the existing river management plan for the Klamath River above Copco to reflect the Final Eligibility and Suitability Report for the Upper Klamath Wild and Scenic River Study and the recommendations of the Klamath Falls Resource Management Plan.

2. Acquire the privately owned land in T. 46 N., R. 7 W., Section 18.

3. Terminate the classifications on lands near Carson and Osburger gulches noted above in II C(2).

4. Withdraw the Osburger historic site (5 acres) from mineral entry and maintain the existing condition of the historic features.

5. Revoke the withdrawal at Carson Gulch noted above in II C(3).

6. Continue periodic monitoring of the riparian zone to assess the improvement to Class II on public land. Recommend additional measures if necessary to protect the riparian zone.

D. Remainder of Management Area

1. Continue cooperative management of the 160 acres noted above in II D(5) to protect spotted owl habitat and 80 acres noted in II D(8) to protect waterfowl habitat in conjunction with the Klamath National Forest and the California Department of Fish and Game, respectively. Update the memoranda of understanding if necessary.

2. Continue the annual monitoring of steelhead spawning success along lower Dry Creek. Maintain the existing management facilities, i.e., gabions and fences, as needed.

3. Work with Siskiyou County to resolve long-term public administration of the Hornbrook refuse transfer site.

4. Maintain a sustained yield harvest from the available commercial forest lands.

5. Terminate the small tract classification on lands near Hawkinsville as noted above in II D(7) and revoke the withdrawal on the 200 acres at Lennox Rock as noted above in II D(3).

MANAGEMENT AREA: KLAMATH

ALTERNATIVE: ADMINISTRATIVE ADJUSTMENT

MAP (in packet): MAP 3-1b

I. RESOURCE CONDITION OBJECTIVES

A. Horseshoe Ranch

1. Improve the existing public-administered deer winter range habitat and afford long-term protection for additional privately owned deer winter range habitat in cooperation with California Department of Fish and

Game, Oregon Department of Fish and Wildlife and Medford District BLM.

2. Allow long-term natural restoration of riparian zones to Class I.

3. Offer semi-primitive non-motorized recreation opportunities.

B. Shasta River Canyon

1. Improve chinook salmon spawning in the lower Shasta River.

2. Restore riparian vegetation to Class I.

3. Increase water-oriented recreation opportunities.

C. Upper Klamath River (above Copco)

1. Maintain water-oriented recreation opportunities along the river in cooperation with Lakeview District BLM.

2. Maintain the condition of the riparian zone at Class II or better on public land.

3. Maintain the visual quality of the river corridor.

D. Mid-Klamath River (below Iron Gate Dam)

1. Maintain and enhance if possible the water oriented recreation opportunities in cooperation with the state of California.

2. Improve the condition of the riparian zone below river mile 181 to Class II.

E. Jenny Creek

1. Maintain resident population levels of the Jenny Creek sucker (Catostomus rimitulus ssp.) and, if present, redband trout (Salmo sp.).

2. Afford long-term protection to the nesting Bald Eagle

F. Dry Creek

1. Improve the steelhead spawning habitat in lower Dry Creek.

G. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of

scattered public land interests within the Klamath management area.

2. Enhance the resource management efficiency and public service mission of local, state, and Federal agencies via transfer of specific public lands from BLM.

3. Afford opportunities to meet specific community development needs for Federally recognized Indian tribes.

II. LAND USE ALLOCATIONS

A. Horseshoe Ranch

1. Area is closed to motorized vehicles.
2. Manage as Semi-Primitive Motorized.
3. All Animal Unit Months (AUMs) are available for wildlife.
4. Acquire unimproved privately owned land between Interstate 5 and the existing public lands. Acquire the eastern one-half of Section 20, T. 48 N., R. 5 W.
5. Seek administrative transfer of three parcels totaling 720 acres from the Klamath National Forest.
6. Area is closed to mineral leasing.
7. The available commercial forest land would be managed for the enhancement of other resources.

B. Shasta River Canyon

1. The riparian zone is closed to livestock grazing.
2. Manage as Roaded Natural.
3. Manage as VRM Class II.
4. Vehicles are limited to designated roads and trails.
5. Designate all land within 100 feet above normal high water along both sides of Shasta River as an Area of Critical Environmental Concern (ACEC). Withdraw the ACEC from mineral entry and allow recreational mineral collection through a permit system.
6. Acquire privately owned lands within the Shasta River Canyon with priority given to unimproved lands within the ACEC and the Wild and Scenic River study corridor.

C. Upper Klamath River (above Copco)

1. Manage as Roaded Natural.
2. Manage as VRM Class II.
3. The Klamath River is considered eligible for inclusion in the National Wild and Scenic Rivers System. All public land in the corridor bounded by the northern canyon rim and within 1/4 mile of normal high water along the southern bank will be managed in a manner which will not impair the outstandingly remarkable values and consistent with a preliminary classification as "Scenic".
4. Vehicle use is limited to designated roads and trails.
5. Public land within the corridor is closed to livestock grazing.
6. Withdraw the corridor from mineral entry and allow recreational mineral collection through a permit system.
7. Offer lands for mineral leasing with no surface occupancy.
8. Mineral material disposals are not allowed within the corridor.
9. Acquire unimproved private lands within the corridor.
10. Seek administrative transfer of five parcels totaling 520 acres from the Klamath National Forest.

D. Mid Klamath River (below Iron Gate Dam)

1. Establish a corridor for this segment of the Klamath River between Iron Gate Reservoir (River Mile 190) and the Klamath River canyon (River Mile 181) which uses the nearest paralleling human made linear feature, i.e. railroad/road, or one-eighth mile from normal high water, whichever is least. Permit no actions on public land which would impair the quality or condition of this "Recreational" component of the National Wild and Scenic Rivers System.
2. Establish a corridor for this segment of the Klamath River between River Mile 181 and the Klamath National Forest boundary (approximately 400 feet downstream of the mouth of Ash Creek) that does not exceed 1/4 mile above the normal high water mark of this "Recreational" component of the National Wild and Scenic Rivers System.

- a. Manage as Roded Natural.
- b. Manage as VRM II.
- c. Vehicle use is limited to designated roads and trails.
- d. Public land within the riparian zone is closed to livestock grazing.
- e. Withdraw the corridor from mineral entry and allow recreational mineral collection through a permit system.
- f. Offer land for mineral leasing with no surface occupancy.
- g. Mineral material disposals are not allowed within the corridor
- h. Acquire unimproved private lands within the corridor and develop cooperative management agreements as necessary with other landowners.

E. Jenny Creek

1. Classify 480 acres (W1/2 & W1/2 of E1/2, Section 24, T. 48 N., R. 5 W.) as Semi-Primitive Non-Motorized.

2. Area is closed to motorized vehicle use.

F. Dry Creek

1. Area is closed to motorized vehicles excepting the Siskiyou County maintained Copco Road.

2. Area is closed to livestock grazing.

3. Mineral material disposals are permitted only if such actions enhance the steelhead spawning potential within Dry Creek.

G. Remainder of Management Area

1. Transfer jurisdiction of eighteen parcels of public land encompassing approximately 3000 acres to the Klamath and Shasta National Forests. These parcels include: agricultural inspection station (T. 39 N., R. 1 W., NW1/4 of NW1/4, Section 4), Dry Lake (T. 44 N., R. 1 W., SE1/4 of SE1/4, Section 31), Goosenest (T. 45 N., R. 4 W., Section 36), Willow Creek to include in spotted owl habitat conservation area (T. 46 N., R. 4 W., NE1/4, Section 36), Iron Dyke Owl Habitat Area (T. 48 N., R. 8 W., S1/2 of SE1/4, Section 22), McGavin Peak (T. 47 N., R. 2 W., Sections 4, 6, 8, 18, 20 and T. 48 N., R. 2 W., Section 32), and Butte Valley Land Use Project (T. 47 N., R. 1 W., Sections 14 and 22).

2. Transfer via exchange, the Recreation and Public Purpose Act (R&PP) or cooperative agreement administrative responsibility of 80 acres within the Butte Valley Wildlife Area (T. 47 N., R. 2 W., Section 28) to the California Department of Fish and Game.

3. Transfer via exchange, R&PP, or sale to the County of Siskiyou the Hornbrook refuse transfer site (T. 47 N., R. 6 W., Section 29, N1/2 of SE1/4 of NE1/4).

4. Transfer via R&PP or exchange to the City of Yreka, the County of Siskiyou, or other qualified local agency the Humbug Gulch parcel encompassing approximately 140 acres. Offer for exchange to any party after two years from the approval of the Final RMP.

5. 1025 acres near Hawkinsville (T. 45 N., R. 7 W., Sections 2, 3, 10 and 11) are suitable for community development purposes as a reservation for Federally recognized Indian tribe(s). If congressional sponsorship is unavailable, offer for exchange to any party after five years from the approval of the Final RMP.

6. Twenty-three parcels of land encompassing approximately 2,320 acres are available for disposal via exchange or sale.

7. All Federal interests not noted above in II A-G (1-6) are available for exchange.

8. The majority of available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Amend the existing Habitat Management Plan (HMP) and Memorandum of Understanding with California Department of Fish and Game for Horseshoe Ranch. The amended HMP will identify specific land acquisition needs, establish the desired plant community within each ecological site necessary to favor deer and, possibly, elk use. The HMP will also identify recreational facilities and access necessary to promote a non-motorized, semi-primitive recreation experience.

B. Develop an integrated resource activity plan for the Klamath River below River Mile 181 and the Shasta River Canyon which identifies high priority land acquisitions, designates appropriate roads and trails for recreational access, identifies management facility needs to protect the ACEC and riparian zone, and cooperative actions with adjacent landowners.

C. Amend the existing river management plan for the Klamath River above Copco to reflect the Final Eligibility and Suitability Report for the Upper Klamath Wild and Scenic River Study and the recommendations of the Klamath Falls Resource Management Plan.

D. Continue annual monitoring of steelhead spawning success along lower Dry Creek. Maintain the existing management facilities, i.e. gabions and fences, as needed.

E. Develop agreement and/or legislative amendment to modify the boundary of the Klamath National Forest to include the public land noted in II G(1) above and to exclude the Forest Service-administered public land noted above in II A (5) and C(10).

F. Contact County of Siskiyou, City of Yreka and other qualified public agencies to acquire management responsibility of parcels noted above in II G(3,4).

G. Contact California Department of Fish and Game to acquire permanent management responsibility for the parcel of public land noted above in II G (2).

H. Publish Federal Register notice(s) regarding vehicle designations, amended Shasta River ACEC boundary, and mineral withdrawals.

I. Revoke existing withdrawals and terminate classifications noted in the NO ACTION alternative, i.e. Carson Gulch, Osburger Gulch, Lennox Rock, and Hawkinsville.

J. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange, sale, or administrative transfer.

K. Maintain a sustained yield harvest from the available commercial forest lands.

L. Contact the State of California and the County of Siskiyou regarding development of a report addressing the suitability of Shasta River for inclusion in the National Wild and Scenic Rivers System.

MANAGEMENT AREA: KLAMATH

ALTERNATIVE: ENHANCEMENT OF NATURAL AND CULTURAL VALUES

MAP (in packet): MAP 3-2a

I. RESOURCE CONDITION OBJECTIVES

A. Horseshoe Ranch

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

B. Shasta and Klamath Rivers Canyon

1. Improve chinook salmon spawning in the lower Shasta River.

2. Restore riparian vegetation to Class I.

3. Enhance non-motorized recreation opportunities.

4. Protect historic and prehistoric resources within the area.

5. Provide access for Native American Indian traditionalists to Black Mountain. Protect the peak from surface-disturbing actions.

6. Protect the native plant communities within the area including Greene's Mariposa Lily (Calochortus greenei) and Peck's Lomatium (Lomatium peckianum).

7. Enhance the long-term condition of the deer winter range habitat.

C. Upper Klamath River

1. Maintain the visual quality of the river corridor and Panther Canyon.

2. Improve the condition of riparian vegetation to Class I.

3. Protect raptors nesting in the area.

4. Enhance the long-term condition of the deer habitat.

5. Protect the cultural resources of the river corridor.

6. Improve semi-primitive non-motorized recreation opportunities.

D. Jenny Creek

1. Afford long-term protection to the nesting Bald Eagle and other raptors within the watershed of Jenny Creek.
2. Improve the native species fisheries in lower Jenny Creek.
3. Maintain the existing visual quality.
4. Enhance traditional Native American Indian uses.

E. Mid Klamath River

1. Maintain existing public lands within the designated Wild and Scenic River corridor in present conditions.

F. Dry and Brush Creeks

1. Improve the steelhead spawning habitat in the public-owned lower reaches of these creeks.

G. Shasta Grass Lake

1. Provide long-term protection and enhancement of native wetlands.
2. Enhance waterfowl reproduction.
3. Protect the habitat of dependent species including tiger salamander, sandhill crane, and Bald Eagle.
4. Enhance opportunities for viewing wildlife.

H. Shasta Valley Wetlands

1. Provide long-term protection and enhancement of native wetlands.
2. Enhance waterfowl production.
3. Enhance terrestrial wildlife habitat.
4. Provide semi-primitive non-motorized recreation opportunities.
5. Improve water quality in the Shasta River basin.
6. Enhance the native fisheries of Big Springs Creek and the Shasta River.

I. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of

scattered public land interests within the Klamath management area.

2. Enhance the resource management efficiency and public service mission of local, state, and Federal agencies via transfer of specific public lands from BLM.

II. LAND USE ALLOCATIONS

A. Horseshoe Ranch

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

B. Shasta and Klamath Rivers Canyon

1. Designate all public land in the Shasta River Canyon below the Highway 263 bridge crossing below Yreka Creek to the confluence with the Klamath River bounded on the east by Interstate 5 and within 1/4 mile west of the normal high water mark as an ACEC.

2. Establish a corridor for this segment of the Klamath River between River Mile 181 and the Klamath National Forest boundary (approximately 400 feet downstream of the mouth of Ash Creek) that does not exceed 1/4 mile above the normal high water mark of this "Recreational" component of the National Wild and Scenic Rivers System.

3. Manage the ACEC and the Klamath River corridor as Roaded Natural. Manage the remainder of the canyon watershed as Semi-Primitive Motorized.

4. Vehicle use is limited to designated roads and trails.

5. Manage future developments outside of public highway rights-of-way as VRM Class II.

6. Withdraw the ACEC, the Klamath River corridor and all public land in Sections 2, 3, 10, and 11, T. 46 N., R. 6 W., (Black Mountain) from mineral entry and offer lands for mineral leasing with no surface occupancy. Balance of the area is available for mineral leasing with no surface disturbing actions permitted between November 15 and April 15 to protect the wintering deer herd.

7. The area is closed livestock grazing.

8. Acquire privately owned lands within the area with priority given (in descending order) to unimproved lands within the ACEC, Klamath River corridor, Black Mountain, and remainder.

C. Upper Klamath River

1. The Klamath River is considered eligible for inclusion in the National Wild and Scenic Rivers System. All public land in the corridor bounded by the northern canyon rim and within 1/4 mile of normal high water along the southern bank will be managed in a manner which will not impair the outstanding remarkable values and consistent with a preliminary classification as "Scenic".

2. Manage area as semi-primitive motorized.
3. Vehicle use is limited to designated roads and trails.
4. Manage area as VRM Class II.
5. The river corridor is closed to livestock grazing.
6. Withdraw the river corridor from mineral entry.
7. Offer public lands within the river corridor for mineral leasing with no surface occupancy. Balance of the area is available for mineral leasing with no surface disturbing actions permitted between November 15 and April 15 to protect the wintering deer herd.
8. Mineral material disposals are not allowed within the river corridor.
9. Seek administrative transfer of nine parcels totaling approximately 9,800 acres from the Klamath National Forest.
10. Acquire unimproved privately owned lands within the area and/or develop cooperative management agreements with Pacific Power and Light. Priorities for acquisition in descending order are the river corridor, raptor nesting habitat, and important upland game habitat.

D. Jenny Creek

1. Designate the area as a Research Natural Area/ACEC.
2. Manage as semi-primitive motorized.
3. Vehicle use is limited to designated roads and trails.
4. Withdraw area from the available commercial forest land.
5. Withdraw area from mineral entry.

6. Offer for mineral leasing with no surface occupancy.

7. Acquire privately owned lands with priority given to lands within the canyon of Jenny Creek.

8. Close the Research Natural Area/ACEC to livestock grazing.

E. Mid-Klamath River.

1. Establish a corridor for this segment of the Klamath River between Iron Gate Reservoir (River Mile 190) and the Klamath River Canyon (River Mile 181) which uses the nearest paralleling human made linear feature, i.e. road, railroad, or one-eighth mile from normal high water, whichever is least. Permit no actions on public land which would impair the quality or condition of this "Recreational" component of the National Wild and Scenic Rivers System.

F. Dry and Brush Creeks

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

G. Shasta Grass Lake

1. Area is closed to vehicle use.
2. Withdraw the area from mineral entry.
3. Offer for mineral leasing with no surface occupancy.
4. Area is closed to livestock grazing.

H. Shasta Valley Wetlands

1. Classify as semi-primitive motorized.
2. Manage as VRM Class II.
3. Vehicle use is limited to designated roads and trails.
4. Mineral material disposals are permitted only if such actions enhance the long-term condition of riparian vegetation and the native fisheries habitat.
5. Offer for mineral leasing with no surface occupancy within 300 feet of wetland habitat.
6. Area is closed to livestock grazing.

I. Remainder of Management Area

1. Transfer jurisdiction of nine parcels of public land encompassing approximately 1480 acres to the Klamath

National Forest. The parcels include: agricultural inspection station, dry lake, Goosenest, Willow Creek to include in spotted owl habitat conservation area, Iron Dyke Owl Habitat Area, and Butte Valley Land Use Project (refer to the ADMINISTRATIVE ADJUSTMENT ALTERNATIVE for cadastral locations).

2. Transfer via exchange, the Recreation and Public Purposes Act (R&PP), or cooperative agreement administrative responsibility of 80 acres within the Butte Valley Wildlife Area (T. 47 N., R. 2 W., Section 28) to the California Department of Fish and Game.

3. Transfer via exchange, R&PP, or sale to the County of Siskiyou the Hornbrook refuse transfer site (T. 47 N., R. 6 W., Section 29, N1/2 of SE1/4 of NE1/4).

4. Transfer via R&PP or exchange to the City of Yreka, the County of Siskiyou or other qualified local agency the Humbug Gulch parcel encompassing approximately 140 acres. Offer for exchange to any party after two years from the approval of the Final RMP.

5. Twenty-two parcels of land encompassing approximately 2,280 acres are available for disposal via exchange or sale.

6. All Federal interests not noted above in II A-I (1-5) are available for exchange.

7. The available commercial forest land would be managed for the enhancement of other resource values. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

B. Develop an integrated resource activity plan for the Klamath River below River Mile 181 and the Shasta River Canyon which identifies high priority land acquisitions, designates appropriate roads and trails for recreational and Native American access, identifies management facility needs to protect the ACEC, riparian zone, sensitive cultural resources, sensitive native plants species and critical habitat areas. The activity plan will also identify cooperative actions needed with adjoining land-owners.

C. Replace the existing river management plan for the Klamath River above Copco with an integrated resource

management plan for the river corridor and the adjoining Panther Canyon/Shovel Creek drainage. The activity plan will reflect the Final Eligibility and Suitability Report for the Upper Klamath Wild and Scenic River Study and the recommendations of the Klamath Falls Resource Management Plan. The activity plan will delineate management zones, desired plant communities and necessary management facilities to enhance the riparian zone, improve the long-term condition of the deer winter range, and facilitate semi-primitive recreation opportunities.

D. Develop a Research Natural Area/ACEC management plan for Jenny Creek which identifies specific land acquisitions and/or cooperative agreements necessary to protect the nesting Bald Eagle and native fisheries. Coordinate this activity plan with the Ashland Area Office of the Medford District BLM. The plan will identify roads and trails open for administrative, public, and user access. The plan will also identify specific management facilities, e.g. barriers and signing, to preclude motorized vehicle access in the sensitive area within or adjacent to Jenny Creek canyon.

E. Continue annual monitoring of steelhead spawning success along lower Dry Creek. Maintain the existing management facilities, i.e. gabions and fences, as needed. Amend the existing HMP to include similar management actions for lower Brush Creek.

F. Develop an acquisition and Habitat Management Plan for Shasta Grass Lake in cooperation with California Department of Fish and Game, the Klamath National Forest, and the California Department of Transportation.

G. Develop an integrated resource management plan for the Shasta Valley Wetlands. The activity plan will be developed in cooperation with California Department of Fish and Game, California Department of Transportation, the County of Siskiyou and interested organizations/individuals. The plan will identify acquisition/cooperative management needs, a network of management facilities to protect the native wetlands, wildlife productivity targets, water quality base and target standards, and public access needs which do not adversely impact the native biota.

H. Develop agreement and/or legislative amendment to modify the boundary of the Klamath National Forest to include the public land noted in II I(1) above and to exclude the Forest Service-administered land noted above in II A and C(9).

I. Contact County of Siskiyou, City of Yreka and other qualified public agencies to acquire management responsibility of parcels noted above in II I(3,4).

J. Contact California Department of Fish and Game to acquire permanent management responsibility for the parcel of public land noted above in II I(2).

K. Publish Federal Register notice(s) regarding vehicle designations, amended Shasta River ACEC boundary, and mineral withdrawals.

L. Revoke existing withdrawals and terminate classifications noted in the NO ACTION alternative, i.e. Carson Gulch, Osburger Gulch, Lennox Rock, and Hawkinsville.

M. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange, sale, or administrative transfer.

N. Contact the State of California and the County of Siskiyou regarding development of a report addressing the suitability of Shasta River for inclusion in the National Wild and Scenic Rivers System.

MANAGEMENT AREA: KLAMATH

ALTERNATIVE: RESOURCE USE WITH NATURAL VALUES CONSIDERATION (proposed action)

MAP (in packet): MAP 3-2b

I. RESOURCE CONDITION OBJECTIVES

A. Horseshoe Ranch

1. Improve the existing public administered deer winter range habitat and afford long-term protection for additional privately owned deer winter range habitat in cooperation with California Department of Fish and Game, Oregon Department of Fish and Wildlife and Medford District BLM.

2. Allow long-term natural restoration of riparian zones to Class I.

3. Offer semi-primitive non-motorized recreation opportunities.

B. Shasta and Klamath Rivers Canyon

1. Improve chinook salmon spawning in the Lower Shasta River.

2. Restore riparian vegetation to Class I.

3. Enhance non-motorized recreation opportunities.

4. Protect historic and prehistoric resources within the area.

5. Enhance access for traditional uses of the rivers by Native American Indians.

C. Upper Klamath River

1. Maintain the visual quality of the river corridor.

2. Improve the condition of riparian vegetation to Class I.

3. Protect the cultural resources of the river corridor.

4. Improve semi-primitive non-motorized recreation opportunities.

D. Jenny Creek

1. Protect special status species, i.e. Bald Eagle and native fish species, within Jenny Creek canyon.

2. Maintain the existing visual quality.

3. Enhance traditional Native American Indian use opportunities.

E. Mid-Klamath River

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. Maintain existing public lands within the designated Wild and Scenic River corridor in present conditions.

F. Dry Creek

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

1. Improve the steelhead spawning habitat in lower Dry Creek.

G. Shasta Valley Wetlands

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVES.

1. Provide long-term protection and enhancement of native wetlands.
2. Enhance waterfowl production.
3. Enhance terrestrial wildlife habitat.
4. Provide semi-primitive non-motorized recreation opportunities.
5. Improve water quality in the Shasta River basin.
6. Enhance the native fisheries of Big Springs Creek and the Shasta River.

H. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of scattered public land interests within the Klamath management area.
2. Enhance the resource management efficiency and public service mission of local, state, and Federal agencies via transfer of specific public lands from BLM.

II. LAND USE ALLOCATIONS

A. Horseshoe Ranch

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

1. Area is closed to motorized vehicles.
2. Manage as Semi-Primitive Motorized.
3. All Animal Unit Months (AUMs) are available for wildlife.
4. Acquire unimproved privately owned land between Interstate 5 and the existing public lands. Acquire the eastern one-half of Section 20, T. 48 N., R. 5 W.
5. Seek administrative transfer of three parcels totaling 720 acres from the Klamath National Forest.
6. Area is closed to mineral leasing.

7. The available commercial forest land would be managed for the enhancement of other resources.

B. Shasta and Klamath Rivers Canyon

1. Designate all public land in the Shasta River Canyon below the Highway 263 bridge crossing below Yreka Creek to the confluence with the Klamath River and within 1/4 mile of the normal high water mark as an ACEC.

2. Establish a corridor for the segment of the Klamath River between River Mile 181 and the Klamath National Forest boundary (approximately 400 feet downstream of the mouth of Ash Creek) that does not exceed 1/4 mile above the normal high water mark of this "Recreational" component of the National Wild and Scenic Rivers System.

3. Manage the area as Roaded Natural.

4. Vehicle use is limited to designated roads and trails.

5. Manage future developments outside of public highway rights of way as VRM Class II

6. Withdraw all public lands within the 100-year flood zone of the Klamath and Shasta Rivers from mineral entry. This same zone is open to mineral leasing with no surface occupancy.

7. The area is closed to livestock grazing.

8. Acquire privately owned lands within the area with priority given (in descending order) to unimproved lands within the ACEC, Klamath River corridor, and lands between Interstate 5 and the ACEC.

9. Withdraw the Osburger Historic Site (5 acres) from mineral entry.

C. Upper Klamath River

1. The Klamath River is considered eligible for inclusion in the National Wild and Scenic Rivers System. All public land in the corridor bounded by the northern canyon rim and within 1/4 mile of normal high water along the southern bank will be managed in a manner which will not impair the outstanding remarkable values and consistent with a preliminary classification as "Scenic".

2. Manage area as Semi-Primitive Motorized.

3. Vehicle use is limited to designated roads and trails.
4. Manage area as VRM Class II.
5. The river corridor is closed to livestock grazing.
6. Withdraw the river corridor from mineral entry.
7. Offer public lands within the river corridor for mineral leasing with no surface occupancy.
8. Mineral material disposals are not allowed within the river corridor.
9. Seek administrative transfer of four parcels totaling approximately 520 acres from the Klamath National Forest.
10. Acquire unimproved privately owned lands within the area and/or develop cooperative management agreements with Pacific Power and Light.

D. Jenny Creek

1. Designate the area as a Research Natural Area/ACEC.
2. Manage as Semi-Primitive Motorized.
3. Vehicle use is limited to designated roads and trails.
4. Withdraw area from the available commercial forest land.
5. Withdraw area from mineral entry.
6. Offer for mineral leasing with no surface occupancy.
7. Acquire privately owned lands within the canyon of Jenny Creek.
8. Close the Research Natural Area/ACEC to livestock grazing.

E. Mid Klamath River

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. Establish a corridor for this segment of the Klamath River between Iron Gate Reservoir (River Mile 190) and the Klamath River Canyon (River Mile 181) which consists of the 100 year flood plain within one-eighth mile of normal high water or the nearest paralleling road / rail-

road, whichever is least. Permit no actions on public land which would impair the quality or condition of this "Recreational" component of the National Wild and Scenic Rivers System.

F. Dry Creek

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

1. Area is closed to motorized vehicles excepting the Siskiyou County maintained Copco Road.
2. Area is closed to livestock grazing.
3. Mineral material disposals are permitted only if such actions enhance the steelhead spawning potential within Dry Creek.

G. Shasta Valley Wetlands

1. Manage as Semi-Primitive Motorized.
2. Manage as VRM Class II.
3. Vehicle use is limited to designated roads and trails.
4. Mineral material disposals are permitted only if such actions enhance the long-term condition of riparian vegetation and the native fisheries habitat.
5. Offer for mineral leasing with no surface occupancy within 300 feet of wetland habitat. Offer all other lands for mineral leasing with no surface disturbing actions permitted between November 15 and April 15.

H. Remainder of Management Area

1. Transfer jurisdiction of eighteen parcels of public land encompassing approximately 3000 acres to the Shasta and Klamath National Forests. These parcels include: agricultural inspection station (T. 39 N., R. 1 W., NW1/4 of NW1/4, Section 4), Dry Lake (T. 44 N., R. 1 W., SE1/4 of SE1/4, Section 31), Goosenest (T. 45 N., R. 4 W., Section 36), Willow Creek to include in spotted owl habitat conservation area (T. 46 N., R. 4 W., NE1/4, Section 36), Iron Dyke Mine Owl Habitat Area (T. 48 N., R. 8 W., S1/2 of SE1/4, Section 22), McGavin Peak (T. 47 N., R. 2 W., Sections 4, 6, 8, 18, 20 and T. 48 N., R. 2 W., Section 32), and Butte Valley Land Use Project (T. 47 N., R. 1 W., Sections 14 and 22).

2. Transfer via exchange, the Recreation and Public Purposes Act (R&PP) or cooperative agreement administrative responsibility of 80 acres within the Butte

Valley Wildlife Area (T. 47 N., R. 2 W., Section 28) to the California Department of Fish and Game.

3. Transfer via exchange, R&PP, or sale to the County of Siskiyou the Hornbrook refuse transfer site (T. 47 N., R. 6 W., Section 29, N1/2 of SE1/4 of SE1/4 of NE1/4).

4. Transfer via R&PP or exchange to the City of Yreka, the County of Siskiyou or other qualified local agency the Humbug Gulch parcel encompassing approximately 140 acres. Offer for exchange to any party after two years from the approval of the Final RMP.

5. 1025 acres near Hawkinsville (T. 45 N., R. 7 W., Sections 2, 3, 10 and 11) are suitable for community development purposes as a reservation for Federally recognized Indian tribe(s). If congressional sponsorship is unavailable, offer for exchange to any party after five years from the approval of the Final RMP.

6. Twenty-two parcels of land encompassing approximately 2,280 acres are available for disposal via exchange or sale.

7. All public land interests not noted above in II A-H (1-6) are available for exchange.

8. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

Amend the existing Habitat Management Plan (HMP) and Memorandum of Understanding with California Department of Fish and Game for Horseshoe Ranch. The amended HMP will identify specific land acquisition needs, establish the desired plant community within each ecological site necessary to favor deer and, possibly, elk use. The HMP will also identify recreational facilities and access necessary to promote a non-motorized, semi-primitive recreation experience.

B. Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

Develop an integrated resource activity plan for the Klamath River below River Mile 181 and the Shasta River

Canyon which identifies high priority land acquisitions, designates appropriate roads and trails for recreational access, identifies management facility needs to protect the ACEC and riparian zone, and cooperative actions with adjacent landowners.

C. Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

Amend the existing river management plan for the Klamath River above Copco to reflect the Final Eligibility and Suitability Report for the Upper Klamath Wild and Scenic River Study and the recommendations of the Klamath Falls Resource Management Plan.

D. Develop a Research Natural Area/ACEC management plan for Jenny Creek which identifies necessary land acquisition and/or cooperative agreements with landowners to protect the nesting Bald Eagle, enhance the native fisheries, and allow for non-motorized access by Native American Indian traditionalists.

E. Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

Continue annual monitoring of steelhead spawning success along lower Dry Creek. Maintain the existing management facilities, i.e. gabions and fences, as needed.

F. Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE

Develop an integrated resource management plan for the Shasta Valley Wetlands. The activity plan will be developed in cooperation with California Department of Fish and Game, California Department of Transportation, the County of Siskiyou and interested organizations/individuals. The plan will identify forage allocation and desired plant communities for domestic and native grazing, acquisition/cooperative management needs, a network of management facilities to protect the native wetlands, wildlife productivity targets, water quality base and target standards, and public access needs which do not adversely impact the native biota.

G. Develop agreement and/or legislative amendment to modify the boundary of the Klamath National Forest to include the public land noted in II H(1) above and to exclude the Forest Service-administered land noted above in II A and C(9).

H. Contact County of Siskiyou, City of Yreka and other qualified public agencies to acquire management responsibility of parcels noted above in II H (3,4).

I. Contact California Department of Fish and Game to acquire permanent management responsibility for the parcel of public land noted above in II H (2).

K. Revoke existing withdrawals and terminate classifications noted in the NO ACTION ALTERNATIVE, i.e. Carson Gulch, Osburger Gulch, Lennox Rock, and Hawkinsville.

L. Conduct resource inventories (archaeological, sensitive species, hazardous materials, minerals, and timber) on lands available for exchange, sale, or administrative transfer.

M. Maintain a sustained yield harvest from the available commercial forest lands.

N. Contact the State of California and the County of Siskiyou regarding development of a report addressing the suitability of Shasta River for inclusion in the National Wild and Scenic Rivers System.

MANAGEMENT AREA: KLAMATH

ALTERNATIVE: RESOURCE USE

MAP (in packet): 3-3a

I. RESOURCE CONDITION OBJECTIVE

A. Horseshoe Ranch

Same as NO ACTION ALTERNATIVE.

B. Shasta River Canyon

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

C. Upper Klamath River (above Copco)

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

D. Mid-Klamath River (below Iron Gate Dam)

1. Enhance the water-oriented recreation opportunities of this segment of the Klamath River in cooperation with the State of California.

2. Maintain existing riparian conditions.

E. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of scattered public land interests within the Klamath management area.

2. Enhance the resource management efficiency and public service mission of local, state, and Federal agencies via transfer of specific public lands from BLM.

II. LAND USE ALLOCATIONS

A. Horseshoe Ranch

Same as NO ACTION ALTERNATIVE.

B. Shasta River Canyon

1. The riparian zone is closed to livestock grazing.

2. Manage as Roaded Natural.

3. Vehicles are limited to designated roads and trails.

4. Designate all land within 100 feet above normal high water along both side of Shasta River as an Area of Critical Environmental Concern (ACEC).

5. Acquire privately owned lands within the Shasta River Canyon with priority given to unimproved lands within the ACEC and the Wild and Scenic River study corridor.

C. Upper Klamath River (above Copco)

1. Manage as Roaded Natural.

2. The Klamath River is considered eligible for inclusion in the National Wild and Scenic River System. All public land in the corridor bounded by the northern canyon rim and within 1/4 mile normal high water along the southern bank will be managed in a manner which will not impair the outstandingly remarkable values and consistent with a preliminary classification as "Scenic".

3. Vehicle use is limited to designated roads and trails.

4. Close all public land within the 100-year flood zone to mineral entry.

5. Mineral material disposals are not permitted within the 100-year flood zone unless such actions do not impair the scenic quality.

6. Seek administrative transfer of five parcels totaling 520 acres from the Klamath National Forest.

D. Mid-Klamath River (below Iron Gate Dam)

1. Establish a corridor for the segment of the Klamath River between Iron Gate Reservoir (River Mile 190) and the Klamath River Canyon (River Mile 181) which uses the nearest paralleling human made feature, i.e. railroad/road, or a line 50 feet above normal high water (whichever is least) as its boundaries. Permit no actions on public land which would impair the quality or condition of this "Recreational" component of the National Wild and Scenic Rivers System

2. Establish a corridor for the segment of the Klamath River between River Mile 181 and the Klamath National Forest boundary (approximately 400 feet downstream of the mouth of Ash Creek) that consists of the 100 year flood plain within one-eighth mile above the normal high water mark or nearest road / railroad paralleling the river (whichever is least) of this "Recreational" component of the National Wild and Scenic Rivers System.

- a. Manage as Roaded Natural.
- b. Vehicle use is limited to designated roads and trails.
- c. Public land within the riparian zone is closed to livestock grazing.
- d. Withdraw the Osburger Historic Site (5 acres) from mineral entry.
- e. Permit no actions on public land which would impair the quality or condition of this "Recreational" component of the National Wild and Scenic Rivers System.

E. Remainder of Management Area

1. Transfer jurisdiction of eighteen parcels of public land encompassing approximately 3000 acres to the Shasta and Klamath National Forests. These parcels include: agricultural inspection station (T. 39 N., R. 1 W., NW1/4 of NW1/4, Section 4), Dry Lake (T. 44 N., R. 1 W., SE1/4 of SE1/4, Section 31), Goosenest (T. 45 N., R. 4 W., Section 36), Willow Creek to include the spotted owl habitat conservation area (T. 46 N., R. 4 W., NE1/4, Section 36), Iron Dyke Mine Owl Habitat Area (T. 48 N., R. 8 W., S1/2 of SE1/4, Section 22), McGavin Peak (T.

47 N., R. 2 W., Sections 4, 6, 18, 20 and T. 48 N., R. 2 W., Section 32), and Butte Valley Land Use Project (T. 47 N., R. 1 W., Sections 14 and 22).

2. Transfer via exchange, the Recreation and Public Purpose Act (R&PP) or cooperative agreement administrative responsibility of 80 acres within the Butte Valley Wildlife Area (T. 47 N., R. 2 W., Section 28) to the California Department of Fish and Game.

3. Transfer via exchange, R&PP, or sale to the County of Siskiyou the Hornbrook refuse transfer site (T. 47 N., R. 6 W., Section 29, N1/2 of SE1/4 of NE1/4).

4. Transfer via R&PP or exchange to the City or Yreka, the County of Siskiyou or other qualified local agency the Humbug Gulch parcel encompassing approximately 140 acres. Offer for exchange to any party after two years from the approval of the Final RMP.

5. Twenty-three parcels of land encompassing approximately 2,320 acres are available for disposal via exchange or sale.

6. All public land interests not noted above in II A-E (1-5) are available for exchange.

7. The available commercial forest land would be managed for the enhancement of other resources. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Same as NO ACTION ALTERNATIVE (III A-Horse-shoe Ranch).

B. Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE (III B-Shasta River Canyon).

C. Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE (III C-Upper Klamath River).

D. Develop a river management plan in cooperation with the State of California, the Klamath National Forest, and other interested entities for the management of the Mid Klamath River below Iron Gate Reservoir.

E. Develop agreement and/or legislative amendment to modify the boundary of the Klamath National Forest to include the public land noted in II E(1) above and to exclude the Forest Service-administered land above in II C(6).

F. Contact County of Siskiyou, City of Yreka and other qualified public agencies to acquire management responsibility of parcels noted above in II E(3,4).

G. Contact California Department of Fish and Game to acquire permanent management responsibility for the parcel of public land noted above in II E(2).

H. Publish Federal Register notice(s) regarding vehicle designations, amended Shasta River ACEC boundary, and mineral withdrawals.

I. Revoke existing withdrawals and terminate classifications noted in the NO ACTION ALTERNATIVE, i.e. Carson Gulch, Osburger Gulch, Lennox Rock, and Hawkinsville.

J. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals and timber) on lands available for exchange, sale, or administrative transfer.

K. Maintain a sustained yield harvest from the available commercial forest lands.

L. Contact the State of California and the County of Siskiyou regarding development of a report addressing the suitability of Shasta River for inclusion in the National Wild and Scenic Rivers System.

enhance public accessibility, and provide more effective long term protection of the interstate deer herd.

Designation of an ACEC in Jenny Creek is consistent with proposed designation by BLM of an ACEC in Oregon to protect the native fisheries. The presence of a nesting Bald Eagle in proximity to roads and a power-line add to the special management needs for this important drainage.

The upper Klamath River (above Copco) has been determined suitable for inclusion in the National Wild and Scenic Rivers System. The California segment of this corridor possesses characteristics considered appropriate for a classification as "Scenic". If the Oregon segments of the study corridor are included within the National Wild and Scenic Rivers System through the conclusive action of the U.S. Congress, then the relatively short California segment of this same river will be recommended for inclusion. This action will enhance protection of the overall corridor and provide resource management continuity by BLM in both states.

The lower Shasta River is an existing ACEC to protect the regionally significant chinook salmon spawning habitat. Since this same segment of the river was determined eligible for inclusion in the National Wild and Scenic Rivers, a management boundary is established to meet both purposes. Moreover, the preliminary classification for this segment is identical to the existing "recreational" classification for the Klamath River above and below its confluence with the Shasta River. Withdrawal of the floodplains from mineral entry within these canyons is deemed necessary to protect habitat improvements, public investments, spawning habitat, and recreational opportunities (including recreational mineral collection).

Designation of a narrow corridor for the Klamath River between Iron Gate Dam and the Klamath River canyon (River Mile 181) recognizes the extremely limited public ownership within this segment of the existing "Recreational" component of the National Wild and Scenic Rivers System. This action also recognizes existing private land ownerships and approved land uses.

Although Dry Creek is a relatively small and isolated parcel of public land, the lowermost portion of the creek contains very productive, although irregular, steelhead spawning habitat. The regional quality of this habitat requires public stewardship.

MANAGEMENT AREA: KLAMATH

RATIONALE FOR THE PROPOSED ACTION (RESOURCE USE WITH NATURAL VALUES CON- SIDERATION)

MAP (in packet): Map 3-2b

BLM and the California Department of Fish and Game have a successful cooperative management relationship at Horseshoe Ranch which protects the natural values while minimizing taxpayer costs. This relationship is mirrored by BLM and Oregon Department of Fish and Wildlife on the north side of the state boundary. Expansion of public land administration westward to Interstate 5 would complement public management (Pacific Crest Trail, Soda Mountain Wilderness Study Area, existing public land ownership, etc.) in Oregon,

Shasta Valley contains a regionally significant amount of native wetlands. Topographic separation enhances the edge effect or biological value of these wetlands. Long term costs to manage these native wetlands would be less than the cost of creating and/or maintaining human-made reservoirs or wetlands. With relatively minor changes in water and livestock management, the wetlands of this area could produce significantly more waterfowl. The quality of the water supply and dependent fisheries would also improve. The location of these wetlands also invites public awareness and compatible recreational use in an area with no existing public lands. Impacts to livestock grazing and agricultural use would be minimal and the lands have little other apparent economic value.

The remaining scattered public lands have little apparent public value. The productive forest lands are suited for private management or transfer to the Klamath National Forest (McGavin Peak area). Specific parcels lend themselves to long-term stewardship by the U.S. Forest Service because of resource values (e.g. the Willow Creek Mountain Spotted Owl Habitat Conserva-

tion Area and Butte Valley Land Use Project) or simple land management efficiencies (e.g. Iron Dyke Owl Habitat Area, Goosenest, etc.)

The Hawkinsville parcel is suited for community development purposes. Due to its location near a full service community; i.e., the county seat Yreka, and specific interest by the Native American Indian community, this public land is generally adequate for establishment of a reservation. Public lands are rarely suitable for this use.

The "no leasing" decision, "no surface occupancy" restriction on mineral leasing and the locatable mineral withdrawals on the specified lands, are warranted to protect the natural and cultural values identified in certain key areas of this management area. Lesser restrictions, such as those contained in the 43 CFR 3809 regulations and standard mineral lease terms and conditions, were considered and deemed inadequate to protect these values.

TRINITY MANAGEMENT AREA

MANAGEMENT AREA: TRINITY

ALTERNATIVE: NO ACTION

MAP (in packet): MAP 3-3b

I. RESOURCE CONDITION OBJECTIVES

A. Trinity River

1. Protect and enhance existing recreation values and provide opportunities for water-based recreation.
2. Maintain the existing visual quality of the immediate river zone.
3. Interpret three cultural resource sites (Montana Cabin, Salt Flat, and Rush Creek) for the general public.
4. Improve the anadromous fisheries habitat within the 100-year flood plain to a good condition.
5. Improve the riparian habitat to Class I or Class II condition.
6. Harvest a proportionate share of the allowable sale quantity from the available commercial forest lands.
7. Maintain and increase, if feasible, forage for deer.

B. Tunnel Ridge

1. Protect the wilderness characteristics on 4,875 acres of public land adjoining the Trinity Alps Wilderness Area in cooperation with the Shasta-Trinity National Forests.

C. Remainder of Management Area

1. Maintain the supply of forest products from all available commercial forest lands.
2. Improve and/or increase forage for deer within the deer winter range habitat.
3. Provide maximum forage for domestic and wild animals with at least 400 pounds of residual mulch per acre after the grazing season.

4. Protect and interpret the cultural values of the Indian Creek townsite.

5. Maintain the fisheries habitat within the 100-year flood plain on anadromous fish streams.

6. Improve the riparian habitat along anadromous fish streams to Class I or Class II condition.

7. Dispose of specific small parcels of public land to resolve survey related trespass.

II. LAND USE ALLOCATIONS

A. Tunnel Ridge

- 4,875 acres of public land are designated as wilderness.

B. Trinity River

1. The Trinity River and lowermost North Fork Trinity River are existing "Recreational" components of the National Wild and Scenic Rivers System. The boundary used in the Trinity River Recreation Activity Management Plan (TRRAMP) serves as the present management boundary for the BLM administered segment of the Trinity River. This boundary is shown on Map 3-3b.

2. Along Highway 299 and Steiner Flat Road the principal Recreation Opportunity Spectrum (ROS) designation is Roaded Natural with Semi-Urban designations surrounding areas of developed private land. The majority of the area within the TRRAMP boundary is classified as Semi-Primitive Motorized.

3. Public lands are managed under VRM Class II.

4. Douglas City and Junction City campgrounds (140 acres and 58 acres, respectively) are withdrawn from mineral entry.

5. Limekiln Gulch and Steel Bridge Campground are segregated from mineral entry under a classification for multiple-use.

6. BLM is acquiring undeveloped privately owned lands within the corridor on an opportunity basis.

7. Vehicle use is limited to designated roads and trails.

8. The majority of the available commercial forest land is managed as restricted. See Appendix G for acreage assigned to the various management categories.

C. Remainder of Management Area

1. Five parcels of public land encompassing approximately 100 acres are available for disposal via sale.
2. Three parcels of public land encompassing approximately 80 acres near the Weaverville Airport have been identified for disposal via the Recreation and Public Purposes Act (R&PP) and Airport Grant. One existing R&PP lease encompasses an additional 17 acres near Junction City.
3. Motorized vehicle use is limited to designated roads and trails.
4. The Indian Creek Townsite is under a BLM right-of-way.

III. MANAGEMENT ACTIONS

A. Tunnel Ridge

The Trinity National Forest issues wilderness permits to users in conformance with a Memorandum of Understanding with BLM. This Memorandum of Understanding will be continued until BLM is able to transfer jurisdiction of this fraction of the Trinity Alps Wilderness Area to the U.S. Forest Service.

B. Trinity River

1. Continue management under the Trinity River Recreation Management Plan (TRRAMP).
2. Develop and maintain recreational facilities at Cemetery Hole, Rush Creek, Bucktail Hole, Montana Cabin, Steel Bridge, Steiner Flat, Sheridan Creek, Junction City Beach and North Fork.
3. Maintain existing recreational facilities at Junction City and Douglas City.
4. Revoke withdrawals on 80 acres of public land adjacent to Douglas City campground and 12.5 acres of public land adjacent to Junction City campground.
5. Designate roads and trails for vehicle use.
6. Close undesignated areas to camping.
7. Continue cooperative management of commercial rafting use with the Trinity National Forest.
8. Withdraw Steel Bridge and Bucktail Hole from mineral entry.

9. Place protective BLM rights-of-way on all recreational facilities and interpreted cultural resource sites.

10. Terminate classification for multiple-use at Limekiln Gulch and Steel Bridge.

11. Continue lands acquisition within the TRRAMP boundary.

C. Remainder of Management Area

1. Continue protective BLM right-of-way at Indian Creek Townsite.
2. Continue the Recreation and Public Purposes Act (R&PP) lease for Trinity County Sheriff's trap range near Junction City.
3. Work with Trinity County to patent under R&PP and Airport Grant the three parcels of public land near Weaverville Airport.
4. Continue administration of five grazing leases on 4,558 acres of public land and monitoring of residual mulch left by allocation of 484 Animal Unit Months.
5. Remove an annual average of 2 million board feet of timber from available commercial forest lands (a fraction of this sum is harvested from within the TRRAMP boundary).
6. Continue anadromous spawning improvement actions and annual monitoring along anadromous fishery streams, especially Indian Creek.

MANAGEMENT AREA: TRINITY

ALTERNATIVE: ADMINISTRATIVE ADJUSTMENT

MAP (in packet): MAP 3-4a

I. RESOURCE CONDITION OBJECTIVES

A. Trinity River

1. Enhance recreation opportunities related to use of the Trinity River including mineral collection.
2. Maintain visual quality along the river corridor.
3. Protect the anadromous fisheries of the Trinity River.

4. Interpret key cultural and natural resources for the public including the Helena Townsite, Rush Creek, Montana Cabin and Salt Flat.

5. Maintain the riparian habitat in Class I or Class II condition.

6. Resolve survey-related trespass uses.

7. Consolidate and increase, as feasible, public ownership within areas of low intensity or undeveloped land uses which constitutes the designated river corridor.

8. Maintain a limited supply of forest products from available commercial forest lands, if not in conflict with the above goals.

9. Maintain opportunities for the exploration and production of locatable mineral values outside the 100-year flood plain.

B. Remainder of the Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of public land interests within the Trinity management area.

2. Enhance resource management efficiency and the public service mission of local, state, and Federal agencies via transfer of jurisdiction of specific public lands from BLM.

3. Afford opportunities to meet community development needs for Federally recognized Indian tribes.

II. LAND USE ALLOCATIONS

A. Trinity River

1. Designate the area shown on Map 3-4a (in packet) as the corridor for this "Recreational" component of the National Wild and Scenic Rivers System. This variable width corridor excludes existing and approved developed land uses. Within developed areas, the corridor is limited to the riparian zone and, if appropriate, the undeveloped viewshed behind the developed area. Outermost boundaries of the corridor were established using the following criteria (in descending priority): definable topographic features, roads, surveyed ownership lines, line-of-sight, and 1/4 mile from normal high water. Due to scale, a very few small developed areas excluded from the corridor are not shown on Map 3-4a. This information is available for review at the Redding Area office.

2. Manage all public lands as VRM Class II.

3. Manage all public lands within the corridor as Roaded Natural or Semi-Primitive Motorized.

4. Limit motorized vehicle use to designated roads and trails.

5. Allow forest management practices consistent with VRM Class II guidelines and special status species protection. All available commercial forest land would be managed for the enhancement of the resource values. See Appendix G for acreage assigned to the various management categories.

6. Maintain existing withdrawals from mineral entry at Junction City and Douglas City campgrounds (58 acres and 140 acres respectively). Withdraw other proposed and developed public facilities from mineral entry. Withdraw specific cultural resources from mineral entry including the townsite of Helena, Rush Creek, Ohio Flat, Salt Flat, and Montana Cabin. Withdraw anadromous fisheries habitat improvements from mineral entry including Steiner Flat and Cemetery Hole. Withdraw all public land within the 100-year flood plain of the Trinity River and allow recreational mineral collection through a permit system.

7. Offer for mineral leasing with no surface occupancy within areas withdrawn from mineral entry.

8. Offer mineral material disposals only to enhance riparian vegetation, anadromous fisheries habitat or when not in conflict with the long term protection of natural values.

9. Area is closed to livestock grazing.

10. Acquire available unimproved private lands within the corridor.

11. Seek administrative transfer of three parcels (N1/2 Section 4, N1/2 Section 5, T. 32 N., R. 10 W., W 1/2 Section 29, All Section 30, All except W 1/2 of SW 1/4 Section 31, and W 1/2 Section 32, T. 33 N., R. 10 W.) totaling approximately 1,450 acres from the Trinity National Forest

B. Remainder of Management Area

1. Transfer approximately 10,000 acres of public land within the North Fork Trinity River and Canyon Creek watersheds (including the Tunnel Ridge portion of the Trinity Alps Wilderness Area) to the Trinity National

Forest. Transfer two parcels of public land encompassing approximately 60 acres near McKinney Gulch and Mill Creek to the Trinity National Forest.

2. Transfer to Trinity County via the Recreation and Public Purposes Act (R&PP) and Airport Grant or exchange three parcels of public land encompassing approximately 80 acres near Weaverville Airport.

3. Three parcels of land encompassing approximately 90 acres are available for disposal via exchange or sale.

4. 50 acres near Hayfork (W 1/2, Section 13, T. 31 N., R. 12 W.) are suitable for community development purposes as a reservation for Federally recognized Indian tribe(s). If congressional sponsorship is unavailable, offer for exchange to any party after five years from the approval of the final RMP.

5. All public land interests not noted above in II A-B (1-4) are available for exchange including the Eastman Gulch Owl Habitat Area (if this action has an overall benefit to the species).

6. The available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Develop agreement and/or legislative amendment to modify the boundary of the Trinity National Forest to include the public land noted in II B (1) above and to exclude the public land noted above in II A (11).

B. Modify the existing Trinity River Recreation Area Management Plan to reflect the designated corridor of the Trinity River (i.e.; a "Recreational" component of the National Wild and Scenic Rivers System) and the recommended withdrawals from mineral entry. Continue implementation of recreational developments and monitoring prescribed in the existing management plan (refer to NO ACTION ALTERNATIVE).

C. Publish Federal Register notice(s) regarding designation of the Trinity River corridor, mineral withdrawals, and interagency transfers.

D. Contact Trinity County regarding transfer of public land near Weaverville Airport.

E. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for sale or exchange.

F. Terminate BLM classifications at Steel Bridge campground and Limekiln Gulch. Revoke mineral withdrawals on 80 acres of public land adjacent to Douglas City campground and 12.5 acres of public land adjacent to Junction City campground.

G. Maintain a sustained yield harvest from the available commercial forest lands.

MANAGEMENT AREA: TRINITY

ALTERNATIVE: ENHANCEMENT OF NATURAL AND CULTURAL VALUES

MAP (in packet): MAP 3-4b

I. RESOURCE CONDITION OBJECTIVES

A. Trinity River

1. Maintain and enhance the visual quality of the Trinity River corridor.

2. Enhance anadromous fisheries habitat within the 100 year flood plain to a good condition.

3. Maintain the riparian habitat in Class I or Class II condition

4. Improve deer winter range habitat as feasible.

5. Protect and interpret key cultural and natural resources for the public including Helena, Salt Flat, Montana Cabin, Rush Creek, and others.

6. Maintain existing recreational opportunities and related facilities along the Trinity River.

7. Resolve survey-related trespass uses.

8. Increase public ownership within the designated corridor.

9. Enhance public access (including Native American Indians) to public-owned resources.

B. Tunnel Ridge

1. Enhance wilderness management efficiency and the public service mission of the Trinity National Forest via transfer of jurisdiction of Tunnel Ridge and adjoining Conrad Gulch from BLM.

C. Weaverville Sphere of Influence

1. Maintain local open space opportunities for the residents of the Weaverville area.

2. Maintain the existing visual quality of public lands within the Weaverville area.

3. Minimize wildfire hazards via vegetation management including prescribed burning.

4. Enhance the public service mission of Trinity County via transfer of jurisdiction of specific public lands from BLM.

D. Deer Winter Range

1. Improve the condition of deer winter range habitat.

2. Improve the condition of riparian habitat and anadromous fisheries habitat in Weaver, Deadwood, Reading, Browns, and Canyon Creeks.

3. Protect archaeological and Native American heritage resources within the area.

4. Maintain the existing visual quality of the area.

5. Maintain existing dispersed recreation opportunities.

6. Enhance special status species habitat through vegetation management including forestry practices.

7. Protect the Bald Eagle nesting habitat near Jennings Gulch and the nearby Eastman Gulch Owl Habitat Area.

8. Protect the historic values of Indian Creek townsite.

9. Enhance public access including Native American Indians to public-owned resources.

10. Maintain the supply of forest products from productive forest lands when such actions are not in conflict with significant natural or cultural values.

E. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of public land interests within the Trinity management area.

II. LAND USE ALLOCATIONS**A. Trinity River**

1. Designate the area shown on Map 3-4b (in packet) as the corridor for this "Recreational" component of the National Wild and Scenic Rivers System. The corridor encompasses the area managed under VRM Class II guidelines. Existing developed land-use areas (not shown due to scale) are excluded from the designated corridor to resolve cases of inadvertent trespass. This information is available for review at the Redding Area Office.

2. Manage all public lands within the corridor as Roaded Natural or Semi-Primitive Motorized.

3. Limit motorized vehicle use to designated roads and trails.

4. Manage all public lands as VRM Class II.

5. Allow forest management practices only if such actions enhance special status species habitat and conform to VRM Class II guidelines.

6. Withdraw all public land within 1/4 mile of normal high water or 100-year floodplain (whichever is greater) of the Trinity and North Fork Trinity Rivers from mineral entry.

7. Corridor is closed to livestock grazing.

8. Offer mineral material disposals only to enhance riparian vegetation or anadromous fisheries habitat.

9. Offer public lands for mineral leasing with no surface occupancy.

10. Seek administrative transfer of three parcels (N1/2 Section 4, N1/2 Section 5, T. 32 N., R. 10 W., W 1/2 Section 29, All Section 30, All except W 1/2 of SW 1/4 Section 31, and W 1/2 Section 32, T. 33 N., R. 10 W.) totaling approximately 1,450 acres from the Trinity National Forest.

11. Acquire available unimproved private lands within the corridor with priority given in descending order to

lands which: are located on the Trinity River, contain special status species habitat, are important elements of the viewshed, or provide physical access to public lands within the corridor.

B. Tunnel Ridge

Transfer administration of the Tunnel Ridge portion of the Trinity Alps Wilderness Area (4,875) and adjoining public land within Conrad Gulch (approximately 325 acres) to the Trinity National Forest.

C. Weaverville Sphere of Influence

1. Transfer to Trinity County via the Recreation and Public Purposes Act (R&PP), Airport Grant, or exchange three parcels of public land encompassing approximately 80 acres near Weaverville Airport.

2. One parcel encompassing approximately ten acres is available for disposal via exchange or sale.

3. All other public land interests within the area are available for transfer under R&PP for management by local agencies and organizations in cooperation with BLM.

D. Deer Winter Range

1. Maintain existing VRM and Recreation Opportunity Spectrum classes.

2. Vehicles are limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd.

3. Withdraw the townsite of Indian Creek from mineral entry. Withdraw all public land within 1/4 mile of the Jennings Gulch Bald Eagle nesting site from mineral entry.

4. Offer public lands for mineral leasing with no surface-disturbing actions permitted between November 15 and April 15 to protect the wintering deer herd.

5. Acquire title to State of California lands within Section 16, T. 34 N., R. 11 W. between Fox and Brock Gulches.

6. Mineral material disposals are not allowed within the 100 year floodplain of anadromous fishery streams (including Deadwood, Weaver, Reading, Canyon, and Brown Creeks) unless such actions enhance anadromous fisheries habitat. Retain and increase, if necessary, public ownership within the area.

7. Acquire undeveloped private lands with priority given in descending order to lands which: are special status species habitat, located along anadromous streams, are important habitat for wintering deer, possess regionally significant cultural resources, provide physical access to other public lands, or enhance overall management efficiency of public lands.

8. All of the available commercial forest land would be managed for the enhancement of other resources. See Appendix F for acreage assigned to the various management categories.

E. Remainder of Management Area

1. Two parcels of public land are available for disposal via exchange or sale.

2. BLM-administered roads and trails within the zone of decomposed granite-derived soils are closed to vehicle use during the rainy season.

3. All public land interests not noted above in II A-E (1,2) are available for exchange.

4. All of the available commercial forest land would be managed for the enhancement of other resources. See Appendix F for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Develop agreement and/or legislative amendment to modify the boundary of the Trinity National Forest to include the public land noted in II B above and to exclude the public land noted above in II A (10).

B. Modify the existing Trinity River Recreation Area Management Plan to reflect: the designated corridor of the Trinity River (i.e., a "Recreational" component of the National Wild and Scenic Rivers System) recommended mineral withdrawals, and changed resource condition objectives.

C. Develop an integrated resource activity plan for the deer winter range area which identifies priority land acquisitions, designates roads and trails for recreational and Native American access, sensitive resource locations, desired plant communities for riparian/upland ecological sites, and actions needed to enhance deer, special status species and anadromous fishery habitats.

D. Contact Trinity County regarding transfer of public land near Weaverville Airport.

E. Publish Federal Register notice(s) regarding designation of the Trinity River corridor, mineral withdrawals, vehicle designations, and Interagency transfers.

F. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for sale or exchange.

G. Terminate BLM classifications at Steel Bridge campground and Limekiln Gulch.

MANAGEMENT AREA: TRINITY

ALTERNATIVE: RESOURCE USE WITH NATURAL VALUES CONSIDERATION (proposed action)

MAP (in packet): MAP 3-5a

I. RESOURCE CONDITION OBJECTIVES

A. Trinity River

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

1. Enhance recreation opportunities related to use of the Trinity River including mineral collection.
2. Maintain visual quality along the river corridor.
3. Protect the anadromous fisheries of the Trinity River.
4. Interpret key cultural and natural resources for the public including the Helena Townsite, Rush Creek, Montana Cabin and Salt Flat.
5. Maintain the riparian habitat in Class I or Class II condition.
6. Resolve survey-related trespass uses.
7. Consolidate and increase, as feasible, public ownership within areas of low intensity or undeveloped land uses which constitutes the designated river corridor.
8. Maintain a limited supply of forest products from available commercial forest lands, if not in conflict with the above goals.

9. Maintain opportunities for the exploration and production of locatable mineral values outside the 100-year flood plain.

B. Tunnel Ridge

1. Protect the wilderness characteristics on 4,875 acres of public land adjoining the Trinity Alps Wilderness Area in cooperation with the Shasta-Trinity National Forests.

2. Maintain and enhance if feasible the quality of spotted owl habitat within this area.

C. North of Trinity River/Deadwood/Indian Creek

1. Improve the long-term supply of forest products from available commercial forest lands.
2. Maintain the quality of existing deer winter range habitat.
3. Provide enhanced access for semi-primitive motorized recreation opportunities and to Native Indian American heritage resources.
4. Protect existing habitat for special status species including Bald Eagle and spotted owl. Manage the Eastman Gulch Owl Habitat Area in cooperation with the Trinity National Forest.
5. Protect the historic resources of the Deadwood area and Indian Creek townsite.
6. Maintain the riparian and fisheries habitat of anadromous fisheries streams including Canyon, Indian, and Deadwood Creeks.
7. Maintain the existing visual quality of BLM administered lands

D. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of public land interests within the Trinity management area.
2. Enhance resource management efficiency and the public service mission of local, state, and Federal agencies via transfer of jurisdiction of specific public lands from BLM.
3. Afford opportunities to meet community development needs for Federally recognized Indian tribes.

II. LAND USE ALLOCATIONS

A. Trinity River

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

1. Designate the area shown on Map 3-5a (in packet) as the corridor for this "Recreational" component of the National Wild and Scenic Rivers System. This variable width corridor excludes existing and approved developed land uses. Within developed areas, the corridor is limited to the riparian zone and, if appropriate, the undeveloped viewshed behind the developed area. Outermost boundaries of the corridors were established using the following criteria (in descending priority): definable topographic features, roads, surveyed ownership lines, line-of-sight, and 1/4 mile from normal high water. Due to scale, a very few small developed areas excluded from the corridor are not shown on Map 3-4a. This information is available for review at the Redding Area office.

2. Manage all public lands as VRM Class II.

3. Manage all public lands within the corridor as Roaded Natural or Semi-Primitive Motorized.

4. Limit motorized vehicle use to designated roads and trails.

5. Allow forest management practices consistent with VRM Class II guidelines and special status species protection. All available commercial forest land would be managed for the enhancement of the resource values. See Appendix G for acreage assigned to the various management categories.

6. Maintain existing withdrawals from mineral entry at Junction City and Douglas City campgrounds (58 acres and 140 acres respectively). Withdraw other proposed and developed public facilities from mineral entry. Withdraw specific cultural resources from mineral entry including the townsite of Helena, Rush Creek, Ohio Flat, Salt Flat, and Montana Cabin. Withdraw anadromous fisheries habitat improvements from mineral entry including Steiner Flat and Cemetery Hole. Withdraw all public land within the 100-year flood plain of the Trinity River and allow recreational mineral collection through a permit system.

7. Offer for mineral leasing with no surface occupancy within areas withdrawn from mineral entry.

8. Offer mineral material disposals only to enhance riparian vegetation, anadromous fisheries habitat or when not in conflict with the long-term protection of natural values.

9. Area is closed to livestock grazing.

10. Acquire available unimproved private lands within the corridor.

11. Seek administrative transfer of three parcels (N1/2 Section 4, N1/2 Section 5, T. 32 N., R. 10 W., W 1/2 Section 29, All Section 30, All except W 1/2 of SW 1/4 Section 31, and W 1/2 Section 32, T. 33 N., R. 10 W.) totaling approximately 1,450 acres from the Trinity National Forest.

B. Tunnel Ridge

4,875 acres of public land are designated as wilderness

C. North of Trinity River/Deadwood/Indian Creek

1. Maintain existing Visual Resource Management classes.

2. Maintain existing Recreation Opportunity Spectrum classes.

3. Vehicles are limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd.

4. Withdraw all public land within 1/4 mile of the Jennings Gulch Bald Eagle nesting site from mineral entry. Withdraw the Indian Creek townsite from mineral entry.

5. Acquire title to State of California lands within Section 16, T. 34 N., R. 11 W. between Fox and Brock Gulches.

6. Mineral material disposals are not allowed within the 100-year floodplain of anadromous fishery streams (including Canyon, Indian Creek, and Deadwood Creeks) unless such actions enhance anadromous fisheries habitat.

7. Consolidate and increase public land ownership within the area by acquiring undeveloped private lands which: adjoin the Trinity River Corridor, facilitate reforestation and other sustained yield forestry practices, protect anadromous fisheries, provide public access to public lands, protect sensitive species habitat, conserve regionally important cultural resources, pro-

vide access to identified Native American heritage resources, or enhance overall efficiency of public land administration.

D. Remainder of Management Area

1. Three parcels of public land encompassing approximately 90 acres are available for disposal via exchange or sale

2. Transfer to Trinity County via the Recreation and Public Purposes Act (R&PP), Airport Grant, or exchange three parcels of public land encompassing approximately 80 acres near Weaverville Airport.

3. Transfer two parcels of public land encompassing approximately 60 acres near McKinney Gulch and Mill Creek to the Trinity National Forest.

4. 50 acres near Hayfork (W 1/2, Section 13, T. 31 N., R. 12 W.) are suitable for community development purposes as a reservation for Federally recognized Indian tribe(s). If congressional sponsorship is unavailable, offer for exchange to any party after five years from the approval of the Final RMP.

5. BLM-administered roads and trails within the zone of decomposed granite-derived soils are closed to vehicle use during the rainy season.

6. All public land interests not noted above in II A-D (1-5) are available for exchange.

7. The majority of the commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Develop agreement and/or legislative amendment to modify the boundary of the Trinity National Forest to include the public land noted in II B and D (3) above and to exclude the public land noted above in II A.

B. Modify the existing Trinity River Recreation Area Management Plan to reflect the designated corridor of the Trinity River (i.e. a "Recreational" component of the National Wild and Scenic Rivers System) and the recommended withdrawal from mineral entry. Continue implementation of recreational developments and monitoring prescribed in the existing management plan (refer to NO ACTION ALTERNATIVE).

C. Publish Federal Register notice(s) regarding designation of the Trinity River corridor, mineral withdrawals, and interagency transfers.

D. Contact Trinity County regarding transfer of public land near Weaverville Airport.

E. Develop an integrated resource activity plan(s) for the area north of the Trinity River and within the Deadwood area. The plan(s) will: Identify priority land acquisitions, designate roads and trails for public-administrative and Native American Indian access, locate sensitive resource locations, detail the desired plant communities for upland/riparian ecological sites, assess reforestation needs, determine annual allowable forest products yield, and prescribe actions needed to enhance deer, special status species, and fishery habitats.

F. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for sale or exchange.

G. Terminate BLM classification at Steel Bridge campground and Limekiln Gulch. Revoke mineral withdrawals on 80 acres of public land adjacent to Douglas City campground and 12.5 acres of public land adjacent to Junction City campground.

H. Maintain a sustained yield harvest from the available commercial forest lands.

MANAGEMENT AREA: TRINITY

ALTERNATIVE: RESOURCE USE

MAP (in packet): MAP 3-5b

I. RESOURCE CONDITION OBJECTIVES

A. Trinity River

1. Maintain existing recreation opportunities directly related to the use of the Trinity River.

2. Maintain the existing quantity and quality of riparian vegetation on public lands.

3. Maintain important anadromous fisheries habitat.

4. Maintain opportunities for the exploration and production of freely available locatable minerals.

5. Maintain opportunities for the supply of mineral materials.

B. Tunnel Ridge

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

C. North of Trinity River/Deadwood/Indian Creek

1. Maximize the supply of forest products from available commercial forest lands within existing guidelines.
2. Protect known special status species habitat within the areas, including the Jennings Gulch Bald Eagle nesting site and, as feasible, the Eastman Gulch Owl Habitat Area.
3. Maintain opportunities for the exploration and development of freely available locatable minerals.
4. Maintain opportunities for the supply of mineral materials.
5. Protect critical habitat areas for wintering deer.

D. Remainder of the Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of public land interests within the Trinity Management Area.
2. Enhance resource management efficiency and the public service mission of local, state, and Federal agencies via transfer of specific lands from BLM.
3. Afford opportunities to meet community development needs for Federally recognized Indian tribes.

II. LAND USE ALLOCATIONS

A. Trinity River

1. Designate the area shown on Map 3-5b as the corridor for this "Recreational" component of the National Wild and Scenic Rivers System. All BLM approved actions cannot impair the outstandingly remarkable values within this designated corridor. This corridor conforms with the 100-year floodplain.
2. Maintain mineral withdrawals on all developed recreational facilities within the corridor.
3. Vehicle use is limited to designated roads and trails.

4. Manage public land as VRM Class III.

5. Manage all public land as Roaded Natural or Semi-Urban.

6. Offer mineral material disposals which would not impair the outstandingly remarkable values of the Trinity River or inhibit long term salmonid spawning and rearing success.

7. Seek administrative transfer of two parcels totaling approximately 750 acres from the Trinity National Forest.

B. Tunnel Ridge

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

C. North of Trinity River/Deadwood/Indian Creek

1. Maintain mineral withdrawals on all developed recreational facilities within the corridor.
2. Motorized vehicle use is limited to designated roads and trails.
3. Consolidate and increase public land ownership within the area by acquiring undeveloped private lands which: facilitate efficient forest management, contain critical habitat for special status species, or provide physical access to other public lands.
4. Offer mineral material disposals unless such actions adversely affect important anadromous fisheries habitat.
5. Acquire title to State of California lands within Section 16, T. 34 N., R. 11 W. between Fox and Brock Gulches.

6. The majority of the available commercial forest land would be managed as intensive. See Appendix G for acreage assigned to the various management categories.

D. Remainder of Management Area

1. Three parcels of public land encompassing approximately 90 acres are available for disposal via exchange or sale.
2. Transfer to Trinity County via the Recreation and Public Purposes Act (R&PP) or exchange three parcels of public land encompassing approximately 80 acres near Weaverville Airport.

3. Transfer two parcels of public land encompassing approximately 60 acres near McKinney Gulch and Mill Creek to the Trinity National Forest.

4. 50 acres near Hayfork (W. 1/2, Section 13, T. 31 N., R. 12 W.) are suitable for community development purposes as a reservation for Federally recognized Indian tribe(s). If congressional sponsorship is unavailable, offer for exchange to any party after five years from the approval of the Final RMP.

5. BLM administered roads and trails within the zone of decomposed granite derived soils are closed to vehicle use during the raining season.

6. All public land interests not noted above in II A-D (1-5) are available for exchange.

III. MANAGEMENT ACTIONS

A. Develop agreement and/or legislative amendment to modify the boundary of the Trinity National Forest to include the public land noted in II B and D (3) above and to exclude the public land noted above in II A (7).

B. Modify the existing Trinity River Recreation Area Management Plan to reflect the designated corridor of the Trinity River (i.e., a "Recreational" component of the National Wild and Scenic Rivers System) and to encourage private sector operation of existing and proposed recreation facilities.

C. Publish Federal Register notice(s) regarding vehicle designations, revocation of withdrawals and termination of existing classifications.

D. Contact Trinity County regarding transfer of public land near Weaverville Airport.

E. Develop an integrated resource activity plan(s) for the area north of Trinity River, within lower Indian Creek and within the Deadwood areas which: identifies priority and acquisitions, designates roads and trails for public and administrative access, locates critical habitat avoidance areas, assesses reforestation needs, determines annual allowable forest products yield, and details the desired plant communities for productive forest, riparian and deer habitat.

F. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for sale or exchange.

G. Terminate BLM classifications at Steel Bridge campground and Limekiln Gulch. Revoke all mineral withdrawals which are not directly related to developed, public-owned facilities.

H. Maintain a sustained yield harvest from the available commercial forest lands.

MANAGEMENT AREA: TRINITY

RATIONALE FOR THE PROPOSED ACTION (RESOURCE USE WITH NATURAL VALUES CONSIDERATION)

MAP (in packet): MAP 3-5a

The Federal government has a significant commitment to manage the Trinity River. The river is an existing "Recreational" component of the National Wild and Scenic Rivers System and the focus of an interagency fisheries improvement task force. The Trinity has significant recreational values and is highly accessible and attractive to the public. To provide adequate protection of these regionally significant values, a withdrawal from mineral entry is deemed necessary. A recreational mineral permitting system and restrictions on the development of mineral materials (principally sand and gravel) will segregate incompatible uses while minimizing adverse damage to sensitive resource values.

Designation of the proposed corridor for the Trinity River will adequately protect public owned and privately owned unimproved interests along or near the river. Existing (and approved) privately owned developments near the river generally conform with a "Recreational" designation but are excluded from the designated corridor to resolve cases of inadvertent trespass and to facilitate local land use planning decisions.

Public lands surrounding the Trinity River corridor and in the Deadwood area have value for dispersed recreation, scenic quality (especially near the Trinity River), fisheries, special status species habitat, cultural resources, forest products, and minerals. BLM is well suited to manage this multiple use prescription. Consolidation of public ownership within this area will benefit the public and enhance overall resource management effectiveness.

The current cooperative management of Tunnel Ridge by the Trinity National Forest (under a Memorandum of Understanding with BLM) is working well. No change is deemed necessary in this relationship.

The Trinity Management Area contains 3,745 acres of northern spotted owl habitat within three key areas of public land, i.e. Eastman Gulch, Tunnel Ridge, and Rich Gulch. A portion of Eastman Gulch (549 acres) contains one known pair of spotted owls and will be managed as a Owl Habitat Area. Unlike BLM administered habitat within Scott Valley, the three key areas within the Trinity Management Area adjoin large expanses of federally administered habitat. BLM administered habitat is considered an integral component of this overall habitat principally administered by the Trinity National Forest within designated Habitat Conservation Areas. The BLM administered habitat is considered critical in terms of owl dispersal. Purchase of additional privately owned habitat will enhance the ability of BLM to protect the species and diminish the likelihood of habitat degrada-

tion through development and land-uses allowed under private ownership.

One parcel near Hayfork is well suited for community development purposes. Local Native American Indians have a long standing interest in this specific parcel. If local Wintu are recognized as a tribe by the Federal government, this parcel could be used in the development of a small Indian reservation.

Other BLM-administered interests have low public values, are uneconomical to manage and are best suited for management by surrounding or adjacent private landowners.

The "no surface occupancy" restriction on mineral leasing, and the locatable mineral withdrawals on the specific lands, are warranted to protect the natural and cultural values identified in certain key areas of this management area. Lesser restrictions, such as those contained in the 43 CFR 3809 regulations and standard mineral lease terms and conditions, were considered and deemed inadequate to protect these values.

SHASTA MANAGEMENT AREA

MANAGEMENT AREA: SHASTA

ALTERNATIVE: NO ACTION

MAP (in packet): MAP 3-3b

I. RESOURCE CONDITION OBJECTIVES

A. Gene Chappie/Shasta Off-Highway Vehicle Area

1. Provide regional opportunity for developed motorized recreation on public lands in cooperation with the State of California and Federal land managing agencies.
2. Maintain the supply of forest products from available commercial forest lands.
3. Maintain the existing quality of deer winter range habitat.
4. Maintain existing range condition on a portion of one grazing lease with at least 400 pounds of residual mulch per acre after the grazing season.
5. Maintain existing scenic quality on public lands within the view of Whiskeytown Unit of the National Recreation area and within the view from Shasta Dam Scenic Drive.

B. Remainder of Management Area

1. Maintain an average annual sustainable harvest of 560 thousand board feet from available commercial forest lands.
2. Maintain the existing quality of deer winter range habitat on public lands.
3. Improve resource management efficiency within the management area through land exchanges on an opportunity basis.
4. Maintain the existing scenic quality on public lands within the view of Shasta Dam Scenic Drive and Muletown Road.
5. Provide opportunities for local government to use public lands for community purposes.

6. Protect the Kett Rattlesnake Lane, Middle Mule Pond, and Quartz Hill archaeological sites and the Pioneer Baby Grave Site.

II. LAND USE ALLOCATIONS

A. Gene Chappie/Shasta Off-Highway Vehicle Area

1. Motorized vehicle use is limited to designated roads and trails.
2. Public lands within the view of Whiskeytown Unit of the National Recreation Area and Shasta Dam Scenic Drive are managed under VRM Class II guidelines.
3. Several small parcels of public land totaling less than eighty acres are available for disposal via sale.
4. Undeveloped private lands and/or easements within the area will be acquired to provide opportunities for trail network development and provide public access to public lands.
5. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

B. Remainder of Management Area

1. Public lands within the viewshed of Shasta Dam Scenic Drive and Muletown Road are managed under Visual Resource Management Class II guidelines.
2. Fourteen parcels of public land encompassing approximately 1,000 acres are classified for lease under the Recreation and Public Purposes Act to benefit the City of Redding, Shasta County, California Department of Forestry and Fire Protection, and non-profit organizations.
3. More than forty small parcels of public land encompassing approximately 300 acres are available for disposal via sale.
4. Motorized vehicle use is limited to designated roads and trails.
5. Management actions at the Pioneer Baby Grave Site are limited by an interagency agreement among BLM, California Department of Parks and Recreation, and California Department of Transportation.

6. All public land interests not noted above in II A, B (1-5) may be available for disposal via exchange on a case-by-case basis for higher public values elsewhere.

7. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Continue implementation of the Gene Chappie/Shasta Off-Highway Vehicle Area project including: acquisition of private lands, development of public access, construction of an integrated trail network, development of camping and parking areas, installation of interpretive signing, distribution of user information, stabilization of erosion-prone areas, provision of visitor services, and monitoring of resources conditions.

B. Continue to respond to public requests for specific uses on public lands especially rights-of-way and group use permits. Respond to, as necessary, unauthorized uses including trash dumping, vandalism, trespass, and illegal activities.

C. Work with Recreation and Public Purposes Act (R&PP) lease holders to perfect eventual transfer via R&PP sale, as feasible.

D. Continue land exchanges on an opportunity basis.

E. Maintain a sustained yield harvest from the available commercial forest land.

F. Continue to crush and/or burn decadent brush to reduce wildfire severity and improve upland wildlife habitat especially wintering deer.

MANAGEMENT AREA: SHASTA

ALTERNATIVE: ADMINISTRATIVE ADJUSTMENT

MAP (in packet): MAP 3-4a

I. RESOURCE CONDITION OBJECTIVES

A. Interlakes Special Recreation Management Area

1. Provide a regional opportunity for motorized recreation with primary focus within the Gene Chappie/Shasta Off-Highway Vehicle (OHV) Area. Enhance public ac-

cess to the OHV Area via the surrounding lands within the Special Recreation Management Area.

2. Improve the long term sustained yield of forest products from available commercial forest lands.

3. Enhance the long-term condition and protection of deer winter range habitat.

B. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of public land interests within the management area.

2. Enhance resource management efficiency and the public service mission of local, state, and Federal agencies via transfer of jurisdiction of specific public lands from BLM.

II. LAND USE ALLOCATIONS

A. Interlakes Special Recreation Management Area

1. Motorized vehicle use is limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd.

2. Area is managed as Semi-Urban, Semi-Primitive Motorized, and Roaded Natural.

3. Area is closed to new livestock grazing applications.

4. Area is designated a Special Recreation Management Area incorporating the Gene Chappie-Shasta Off-Highway Vehicle Area.

5. Public lands within the viewshed of Whiskeytown Unit of the National Recreation Area and Shasta Dam Scenic Drive are managed as VRM Class II.

6. Lands acquired using State of California funds are closed to mineral location.

7. Undeveloped private lands within the area will be acquired (based on the following descending priorities) if the lands: provide legal public access to existing public lands, complete desired vehicle trails, enhance protection of critical habitat or soils/slopes, improve the manageability of productive forest lands, or enhance long-term administration of the area.

8. The majority of the available commercial forest land would be managed as restricted. See Appendix G for

acreage assigned to the various management categories.

9. Seek administrative transfer of all public administered by the Shasta National Forest within the Special Recreation Management Area to the BLM.

B. Remainder of the Management Area

1. Transfer via the Recreation and Public Purposes Act (R&PP) or exchange to the Shasta State Historic Park two parcels of public land encompassing approximately 160 acres (T. 32 N., R. 5 W., Section 25, and T. 32 N., R. 4 W., Section 30) to maintain the visual integrity of the historic town setting.

2. Transfer via R&PP or exchange three parcels of public land encompassing approximately 320 acres to the Centerville Community Services District for community water developments.

3. Transfer via R&PP or exchange ten parcels of public land encompassing approximately 800 acres to the City of Redding to satisfy community development needs.

4. Transfer via R&PP or exchange to a qualified organization the administrative responsibility of the Central Valley Cemetery located within one parcel of public land at SE 1/4 of NW 1/4 of Section 30, T. 33 N., R. 5 W.

5. Transfer via R&PP or exchange to the County of Shasta, one parcel of public land encompassing approximately 280 acres in Section 4, T. 30 N., R. 6 W. for use as a sanitary landfill.

6. Transfer two parcels of public land encompassing approximately 1,500 acres of public land to the Whiskeytown Unit of the National Recreation Area to facilitate public recreational access.

7. Transfer to County of Shasta via R&PP, exchange, or sale, the French Gulch and Shasta refuse transfer sites encompassing approximately 6 acres of public land.

8. Transfer via R&PP, sale, or exchange, to the Independent Order of Odd Fellows, one parcel of public land in French Gulch to resolve an inadvertent trespass by the community cemetery.

9. Transfer via R&PP, or exchange, to the State of California, County of Shasta, City of Redding, community service districts or any other qualified organiza-

tion administrative responsibility of any portion of 5,500 acres of public land to meet local services needs. Offer for exchange to any party after two years from approval of the final RMP.

10. Twenty-three parcels of public land encompassing approximately 500 acres are available for disposal via exchange or sale.

11. BLM-administered roads and trails within the zone of decomposed granite-derived soils are closed during the rainy season.

12. Vehicle use is limited to designated roads and trails.

13. All public land interests not noted above in II A, B (1-10) are available for exchange.

14. The available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Develop an integrated resources activity plan for the Interlakes Special Recreation Management Area which: identifies high priority land acquisition needs, identifies sensitive resource locations for protection, details the trail and management facilities development/maintenance needs, delineates VRM Class II areas, distribution of user information, describes needed visitor services, and details monitoring of resources conditions.

B. Contact the State of California and the County of Shasta regarding development of reports addressing the suitability of Clear Creek and North Fork Cottonwood Creek for inclusion in the National Wild and Scenic Rivers System. Assist these agencies, as feasible, in development of these report(s).

C. Contact the State of California, County of Shasta, City of Redding, special service districts and appropriate qualified organizations regarding acquisition or administrative transfer of public land (noted in II B 1-9) above.

D. Develop agreement and/or legislative amendment to modify the boundary of the Whiskeytown Unit of the National Recreation Area to include the public land noted in II B (6).

E. Publish Federal Register notice(s) regarding vehicle designations and designation of the Special Recreation Management Area.

F. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange, sale, or administrative transfer.

G. Maintain a sustained yield harvest from the available commercial forest lands.

MANAGEMENT AREA: SHASTA

ALTERNATIVE: ENHANCEMENT OF CULTURAL AND NATURAL VALUES

MAP (in packet): MAP 3-4b

I. RESOURCE CONDITION OBJECTIVES

A. Interlakes Special Recreation Management Area

1. Provide a regional opportunity for motorized recreation with a focus within the Gene Chappie/Shasta Off-Highway Vehicle Area.

2. Improve the long-term condition and protection of deer winter range habitat.

3. Enhance non-motorized recreation opportunities within the area especially via a greenway connecting Redding to Shasta Dam along the Sacramento River.

4. Maintain the existing scenic quality of the area.

5. Provide interpretation of natural and historic resource values to the public.

6. Improve sensitive species habitat protection.

7. Improve the long-term supply of forest products from productive forest lands when not in conflict with important natural values.

8. Maintain opportunities to explore and develop freely available minerals on public lands.

B. West of French Gulch

1. Improve the condition of deer winter range habitat.

2. Protect historic resources of the French Gulch and Deadwood mining districts.

C. Keswick to Sugarloaf Axis

1. Reduce wildfire risk to private property developments adjoining public land through fuel reduction.

2. Maintain the existing open space opportunities for local residents west of Redding.

3. Maintain the existing visual quality of public lands within the area.

D. Swasey Drive Area of Critical Environmental Concern

Conserve and interpret prehistoric and historic archaeological resources on public lands.

E. Lower Clear Creek

1. Enhance anadromous fisheries habitat.

2. Restore the quality and quantity of riparian vegetation to Class I and Class II.

3. Enhance non-motorized recreation opportunities by establishing a greenway from the Sacramento River to the Whiskeytown Unit of the National Recreation Area along Clear Creek.

4. Maintain the scenic quality of the canyon above Clear Creek Road Bridge.

5. Re-establish the native plant communities and associated fauna of the area.

6. Protect historic and sociocultural values of the area.

F. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of public land interests within the management area.

2. Enhance resource management efficiency and the public service mission of local, state, and Federal agencies via transfer of jurisdiction of specific public lands from BLM.

II. LAND USE ALLOCATIONS

A. Interlakes Special Recreation Management Area

1. Motorized vehicle use is limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd..

2. Area is managed as Semi-Primitive, Non-Motorized, Semi-Urban, Semi-Primitive Motorized, and Roded Natural.

3. Area is closed to new grazing leases.

4. Area is designated a Special Recreation Management Area Incorporating the Gene Chappie-Shasta Off-Highway Vehicle Area.

5. Public lands within the viewshed of Whiskeytown Unit of the National Recreation Area and Shasta Dam Scenic Drive are managed as VRM Class II.

6. Lands acquired using State of California funds will not be opened to mineral location, but will be available for mineral leasing.

7. Maintain withdrawal from mineral entry on all public land within 1/4 miles of normal high water of the Sacramento River and the spillway elevation of Keswick Reservoir.

8. Offer all public lands within the area east of the Sacramento River and within 1/4 mile west of the Sacramento River for mineral leasing with no surface occupancy.

9. Mineral material disposals are not allowed within the 100-year floodplain of anadromous fishery streams in the area east of the Sacramento River unless such actions enhance salmonid spawning, riparian vegetation, or semi-primitive recreation opportunities.

10. Acquire unimproved private lands which provide legal public access to adjoining public lands, complete segments of recreational trails, enhance protection of sensitive resources, provide opportunities for public interpretation, enhance reforestation efforts (including habitat improvement for sensitive species), or enhance long-term administration of the area.

11. The available commercial forest land would be managed for the enhancement of other resource values. See Appendix G for acreage assigned to this management category.

B. West of French Gulch

1. Issue no new grazing leases.

2. Manage as Semi-Primitive Motorized and Roded-Natural.

3. Acquire unimproved private lands which: contain important historic resources, possess critical habitat for wintering deer, provide physical access to public lands, reduce inadvertent trespass potential, or facilitate long-term administration within the area.

4. Vehicle use is limited to designated roads and trails.

5. The available commercial forest land would be managed for the enhancement of other resource values. See Appendix G for acreage assigned to this management category.

C. Keswick to Sugarloaf Axis

1. Manage as Roded Natural.

2. Vehicle use is limited to designated roads and trails.

3. Manage as VRM Class II.

D. Swasey Drive Area of Critical Environmental Concern.

1. Manage as Semi-Primitive Motorized.

2. Area is withdrawn from mineral entry.

3. Vehicles are limited to designated roads and trails.

4. Area is designated as an ACEC.

E. Lower Clear Creek

1. Public land within the 100-year floodplain is withdrawn from mineral entry. (This same area is open to recreational mineral collection.)

2. Vehicles are limited to designated roads and trails on all other public lands.

3. Public land within the 100-year floodplain is available for mineral leasing with no surface occupancy.

4. Mineral material disposals are not permitted within 200 feet of normal high water unless such actions enhance salmonid spawning or the restoration of riparian vegetation.

5. Area is managed as Roaded Natural and Semi-Primitive Motorized.

6. Manage all public land upstream of Clear Creek Road bridge as VRM Class II.

7. Acquire unimproved private land which: contain important spawning habitat, lay within the 100-year floodplain, possess significant historic or sociocultural resources, provide public access to public lands within the area, contain important visual qualities within the creek viewshed above Clear Creek Road bridge, or facilitate long term resource protection of the area.

F. Remainder of the Management Area

1. Transfer via the Recreation and Public Purposes Act (R&PP) or exchange to Shasta State Historic Park one parcel of land containing approximately 80 acres (Section 25, T. 32 N., R. 6 W.) to maintain the visual integrity of the historic town setting.

2. Transfer via R&PP or exchange to the City of Redding one parcel of public land containing approximately 100 acres near Buckeye (Section 14, T. 32 N., R. 5 W.) for community purposes.

3. Transfer via R&PP or exchange to the State of California one lot of public land at the intersection of Highway 299 and Iron Mountain Road to develop a fire fighting station.

4. Transfer to the County of Shasta via R&PP or exchange one parcel of public land encompassing approximately 280 acres in Section 4, T. 30 N., R. 6 W. for use as a sanitary landfill.

5. Transfer via R&PP, exchange, or sale to a qualified organization the administrative responsibility of the Central Valley Cemetery located within one parcel of public land at SE1/4 of NW1/4 of Section 30, T. 33 N., R. 5 W.

6. Transfer via R&PP, exchange, or sale, to the County of Shasta the French Gulch and Shasta refuse transfer sites encompassing approximately 6 acres of public land.

7. Transfer via R&PP, exchange, or sale to the Independent Order of Odd Fellows, one parcel of land in French Gulch to resolve an inadvertent trespass by the community cemetery.

8. Twenty-one parcels encompassing approximately 300 acres are available for disposal via exchange or sale.

9. BLM-administered roads and trails within the zone of decomposed granite derived soils are closed during the rainy season.

10. Vehicle use is limited to designated roads and trails.

11. All public land interests not noted above in II A-F (1-8) are available for exchange.

12. The available commercial forest land would be managed for the enhancement of other resource values. See Appendix G for acreage assigned to this management category.

III. MANAGEMENT ACTIONS

A. Develop an integrated resources activity plan for the Interlakes Special Recreation Management Area which: identifies priority land acquisition needs, identifies sensitive resource protection locations, details the trail and management facilities development/maintenance needs, delineates VRM Class area, identifies important public interpretive needs, describes needed visitor services, details resource monitoring conditions, and evaluate the possible designation as a National Recreation Area.

B. Contact the County of Shasta and the State of California regarding development of reports addressing the suitability of Clear Creek and North Fork Cottonwood Creek for inclusion in the National Wild and Scenic Rivers System. Assist these agencies as feasible in development of these reports.

C. Develop a fuels management plan for the public land between Keswick and Sugarloaf.

D. Develop a management plan for the long-term protection of the Swasey Drive cultural resources ACEC.

E. Develop an integrated resource activity plan for Clear Creek which: identifies high priority land acquisition, details habitat restoration needs for salmonid spawning, delineates desired plant community and restoration needs for riparian vegetation, describes protective management facilities, lists important cooperators and their responsibilities, identifies important cultural resources, and describes the recreational opportunities for the public.

F. Contact the State of California, County of Shasta, City of Redding, and other qualified agencies/organizations regarding acquisition or administrative transfer of public land noted in II F (1-7) above.

G. Publish Federal Register notice(s) regarding vehicle designations, ACEC designation, designation of the Special Recreation Management Area, and mineral withdrawals.

H. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange, sale, or administrative transfer.

MANAGEMENT AREA: SHASTA

ALTERNATIVE: RESOURCE USE WITH NATURAL VALUES CONSIDERATION (proposed action)

MAP (in packet): **MAP 3-5a**

I. RESOURCE CONDITION OBJECTIVES

A. Interlakes Special Recreation Management Area

1. Provide a regional opportunity for motorized recreation with a focus within the Gene Chappie/Shasta Off-Highway Vehicle Area.

2. Enhance non-motorized recreation opportunities within the area especially via a greenway connecting Redding to Shasta Dam along the Sacramento River.

3. Improve the long-term supply of forest products from available commercial forest lands.

4. Improve the long term condition and protection of deer winter range habitat.

5. Maintain special status species habitat.

6. Maintain the existing scenic quality of the area.

7. Maintain opportunities to explore and develop freely available minerals on public lands.

8. Identify, if feasible, a suitable site for a regional firing range at the request of the City of Redding, County of Shasta or other qualified organization(s).

B. West of French Gulch

1. Maintain the long-term sustained-yield of forest products from productive forest lands.

2. Improve the condition of deer winter range habitat.

3. Protect significant historic elements of the French Gulch and Deadwood mining districts.

4. Maintain opportunities to explore and develop freely available minerals on public lands.

5. Enhance existing semi-primitive motorized recreation opportunities.

C. Swasey Drive Area of Critical Environmental Concern

Conserve and interpret prehistoric and historic archaeological resources on public lands.

D. Lower Clear Creek

1. Enhance anadromous salmonid habitat.

2. Restore the quality and quantity of riparian vegetation to Class I and Class II.

3. Enhance non-motorized recreation opportunities by establishing a greenway from the Sacramento River to the Whiskeytown Unit of the National Recreation Area along Clear Creek.

4. Maintain the scenic quality of the canyon above Clear Creek Road Bridge.

5. Protect the native plant communities and associated fauna of the area.

6. Protect the historic values of the area.

E. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of public land interests within the Shasta Management Area.

2. Enhance resource management efficiency and the public service mission of local, state, and Federal agencies via transfer of jurisdiction of specific public lands from BLM.

II. LAND USE ALLOCATIONS

A. Interlakes Special Recreation Management Area

1. Motorized vehicle use is limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd.
2. Area is managed as Semi-Primitive, Non-Motorized, Semi-Urban, Semi-Primitive Motorized, and Roaded Natural.
3. Area is closed to new grazing leases.
4. Area is designated a Special Recreation Management Area incorporating the Gene Chappie-Shasta Off-Highway Vehicle Area.
5. Public lands within the viewshed of Whiskeytown Unit of the National Recreation Area and Shasta Dam Scenic Drive are managed as VRM Class II.
6. Lands acquired using State of California funds will not be opened to mineral location, but will be available for mineral leasing.
7. Maintain withdrawal from mineral entry on all public land within 1/4 miles of normal high water of the Sacramento River and the spillway elevation of Keswick Reservoir.
8. Offer all public lands within the area east of the Sacramento River and within 1/4 mile west of the Sacramento River for mineral leasing with no surface occupancy.
9. Mineral material disposals are not allowed within the 100-year floodplain of anadromous fishery streams in the area east of the Sacramento River unless such actions enhance salmonid spawning, riparian vegetation, or semi-primitive recreation opportunities.
10. Acquire unimproved private lands which provide legal public access to adjoining public lands, complete segments of recreational trails, enhance protection of sensitive resources, provide opportunities for public interpretation, enhance reforestation efforts (including habitat improvement for sensitive species), or enhance long-term administration of the area.

11. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

B. West of French Gulch

1. Manage as Roaded Natural and Semi-Primitive Motorized.
2. Acquire unimproved private lands which: enhance long-term forestry management, possess critical habitat for wintering deer, contain significant historic resources, enhance protection or restoration of special status species habitat, provide physical access to public lands, or enhance long-term administration of the area.
3. Vehicle use is limited to designated roads and trails.
4. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

C. Swasey Drive Area of Critical Environmental Concern (ACEC)

1. Manage as Semi-Primitive Motorized.
2. Vehicles are limited to designated roads and trails.
3. Area is designated as an ACEC.

D. Lower Clear Creek

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. Public land within the 100-year floodplain is withdrawn from mineral entry. (This same area is open to recreational mineral collection.)
2. Vehicles are limited to designated roads and trails on all other public lands.
3. Public land within the 100-year floodplain is available for mineral leasing with no surface occupancy.
4. Mineral material disposals are not permitted within 200 feet of normal high water unless such actions enhance salmonid spawning or the restoration of riparian vegetation.

5. Area is managed as Roaded Natural and Semi-Primitive Motorized.

6. Manage all public land upstream of Clear Creek Road bridge as VRM Class II.

7. Acquire unimproved private land which: contain important anadromous salmonid habitat, lay within the 100-year floodplain, possess significant historic or sociocultural resources, provide public access to public lands within the area, contain important scenic qualities within the creek viewshed above Clear Creek Road bridge, or facilitate long term resource protection of the area.

E. Remainder of Management Area

1. Transfer via the Recreation and Public Purposes Act (R&PP) or exchange to Shasta State Historic Park two parcels of public land encompassing approximately 160 acres (Section 25, T. 32 N., R. 5 W.) to maintain the visual integrity of the historic town setting.

2. Transfer via R&PP or exchange two parcels of public land encompassing approximately 300 acres to the Centerville Community Services District for community water developments. Offer for exchange to any party after two years from approval of the Final RMP.

3. Transfer via R&PP or exchange six parcels of public land encompassing approximately 500 acres to the City of Redding to satisfy community development needs. Offer for exchange to any party after two years from approval of the Final RMP.

4. Transfer via R&PP, sale, or exchange to a qualified organization administrative responsibility of the Central Valley Cemetery located on one parcel of public land at SE 1/4 of NW 1/4 of Section 30, T. 33 N., R. 5 W.

5. Transfer via R&PP or exchange to the County of Shasta, one parcel of public land encompassing approximately 280 acres in Section 4, T. 30 N., R. 6 W. for use as a sanitary landfill.

6. Transfer to County of Shasta via R&PP, exchange, or sale, the French Gulch and Shasta refuse transfer sites encompassing approximately 6 acres of public land.

7. Transfer via R&PP, sale, or exchange, to the Independent Order of Odd Fellows, one parcel of public land in French Gulch to resolve an inadvertent trespass by the community cemetery.

8. Transfer via R&PP, or exchange, to the State of California, County of Shasta, City of Redding, community service districts or any other qualified organization administrative responsibility of any portion of 5,500 acres of public land to meet local communities services needs. Offer for exchange to any party after two years from approval of the final RMP.

9. Twenty-one parcels encompassing approximately 330 acres are available for disposal via exchange or sale.

10. BLM-administered roads and trails within the zone of decomposed granite-derived soils are closed during the rainy season.

11. Vehicle use is limited to designated roads and trails. All public land interests not noted in II A-E (1-9) are available for exchange.

14. The available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Develop an integrated resources activity plan for the Interlakes Special Recreation Management Area which: identifies priority land acquisition needs, identifies sensitive resource protection locations, details the trail and management facilities development/maintenance needs, identifies site(s) for a regional firing range as proposed by a requesting agency(s), delineates Visual Resource Management Class areas, identifies important public interpretive needs, describes needed visitor services, details resource monitoring conditions and evaluates possible designation as a National Recreation Area.

B. Contact the County of Shasta and the State of California regarding development of reports addressing the suitability of Clear Creek and North Fork Cottonwood Creek for inclusion in the National Wild and Scenic Rivers System. Assist these agencies as feasible in development of these reports.

C. Develop a management plan for the long-term protection of the Swasey Drive cultural resources ACEC.

D. Develop an integrated resource activity plan for Clear Creek which: identifies high priority land acquisition, details habitat restoration needs for anadromous salmonids, delineates desired plant community and restoration needs for riparian vegetation, describes protec-

tive management facilities, lists important cooperators and their responsibilities, identifies important cultural resources, and describes the recreational opportunities for the public.

E. Contact the State of California, County of Shasta, City of Redding, and other qualified agencies/organizations regarding acquisition or administrative transfer of public land noted in II E (1-8) above.

F. Publish Federal Register notice(s) regarding vehicle designations, ACEC designation, designation of the Special Recreation Management Area, and mineral withdrawals.

G. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange, sale, or administrative transfer.

H. Maintain a sustained yield harvest from the available commercial forest land.

MANAGEMENT AREA: SHASTA

ALTERNATIVE: RESOURCE USE

MAP (in packet): MAP 3-5b

I. RESOURCE CONDITION OBJECTIVES

A. Gene Chappie/Shasta Off-Highway Vehicle Area

1. Provide a regional opportunity for motorized recreation.
2. Maximize the supply of forest products from available commercial forest land.
3. Maintain opportunities to explore for and develop freely available minerals on public land.

B. West of French Gulch

1. Maximize the supply of forest products from available commercial forest land.
2. Enhance opportunities to explore and develop freely available minerals on public land.
3. Maintain opportunities for dispersed recreation.

C. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of public land interests within the management area.
2. Enhance resource management efficiency and the public service mission of local, state, and Federal agencies via transfer of jurisdiction of specific public lands from BLM.

II. LAND USE ALLOCATIONS

A. Gene Chappie/Shasta Off-Highway Vehicle Area

1. Area is open to motorized vehicle use.
2. Area is managed as Semi-Urban, Semi-Primitive Motorized, and Roded Natural.
3. Lands acquired using State of California funds will not be opened to mineral location, but will be available for mineral leasing.
4. Available undeveloped private lands will be acquired if the lands: provide public access, complete desired vehicle trails, or enhance forestry management.

5. The majority of the available commercial forest land would be managed as intensive. See Appendix G for acreage assigned to the various management categories.

B. West of French Gulch

1. Area is open to motorized vehicle use.
2. Area is managed as Semi-Primitive Motorized and Roded Natural.
3. The majority of the available commercial forest land would be managed as intensive. See Appendix G for acreage assigned to the various management categories.

C. Remainder of the Management Area

1. Transfer via the Recreation and Public Purposes Act (R&PP) or exchange to Shasta State Historic Park two parcels of public land encompassing approximately 160 acres (Section 25, T. 32 N., R. 5 W., Section 30, T. 32 N., R. 5 W.) to maintain the visual integrity of the historic town setting.

2. Transfer via R&PP, or exchange, two parcels of public land encompassing approximately 300 acres to the Centerville Community Services District for community water developments.

3. Transfer via R&PP, or exchange, ten parcels of public land encompassing approximately 800 acres to the City of Redding to satisfy community development needs.

4. Transfer via R&PP, or exchange to a qualified organization administrative responsibility of the Central Valley Cemetery located on one parcel of public land at SE 1/4 of NW 1/4 of Section 30, T. 33 N., R. 5 W.

5. Transfer via R&PP or exchange to the County of Shasta, one parcel of public land encompassing approximately 280 acres in Section 4, T. 30 N., R. 6 W. for use as a sanitary landfill.

6. Transfer two parcels of public land encompassing approximately 1,500 acres of public land to the Whiskeytown Unit of the National Recreational Area to facilitate public recreational access.

7. Transfer to County of Shasta via R&PP, exchange, or sale, the French Gulch and Shasta refuse transfer sites encompassing approximately 6 acres of public land.

8. Transfer via R&PP, sale, or exchange, to the Independent Order of Odd Fellows, one parcel of public land in French Gulch to resolve an inadvertent trespass by the community cemetery.

9. Transfer via R&PP, or exchange, to the State of California, County of Shasta, City of Redding, community service districts or any other qualified organization administrative responsibility of any portion of 6,500 acres of public land to meet local communities services needs. Offer for exchange to any party after two years from approval of the final RMP.

10. Twenty-three parcels of public land encompassing approximately 500 acres are available for disposal via exchange or sale.

11. BLM-administered roads and trails within the zone of decomposed granite derived soils are closed during the rainy season.

12. Vehicle use is limited to designated roads and trails.

13. All public land interests not noted above in II A-C (1-10) are available for exchange.

14. The available commercial forest land will be managed as restricted.

III. MANAGEMENT ACTIONS

A. Develop an integrated resources activity plan for the Gene Chappie/Shasta Off-Highway Vehicle Area which: identifies priority land acquisition needs, identifies significant natural resources (i.e., threatened or endangered species) for protection, details developments, and delineates forestry management needs.

B. Acquire available private lands within the area of West of French Gulch on an opportunity basis.

C. Contact the State of California and the County of Shasta regarding development of reports addressing the suitability of Clear Creek and North Fork Cottonwood Creek for inclusion in the National Wild and Scenic Rivers System. Assist these agencies, as feasible, in development of these report(s).

D. Contact the State of California, County of Shasta, City of Redding, special service districts and appropriate qualified organizations regarding acquisition or administrative transfer of public land noted in II C (1-9) above.

E. Develop agreement and/or legislative amendment to modify the boundary of the Whiskeytown Unit of the National Recreation Area to include the public land noted in II C (6).

F. Publish Federal Register notice(s) regarding vehicle designations.

G. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange, sale, or administrative transfer.

H. Maintain a sustained yield harvest from the available commercial forest land.

MANAGEMENT AREA: SHASTA

RATIONALE FOR THE PROPOSED ACTION (RESOURCE USE WITH NATURAL VALUES CON- SIDERATION)

MAP (in packet): Map 3-5a

The Interlakes Special Recreation Management Area has significant state and regional value. Located directly between two units of the Whiskeytown-Shasta-Trinity National Recreation Area and adjoining the growing population center of Redding, this area ties together separate recreational uses into a cohesive package of recreational opportunities. Off-highway vehicle opportunities, hiking, biking, hang-gliding, sightseeing, fishing, boating, and hunting are recreational opportunities afforded by this area. Through close interagency cooperation, the public will benefit by integrating and enhancing existing public land assets managed by the U.S. Forest Service, U.S. Bureau of Reclamation, National Park Service, and BLM. Recreational use, development of a greenway between Shasta Dam and Redding, protection of deer winter range, maintenance of water quality, development of mineral resources, maintenance of forest products supply, and protection of special status species habitat is a multiple land-use challenge well suited for BLM. BLM has an obligation to protect public investments within this area. Therefore, lands purchased using State of California funds should not be opened to mineral entry as a safeguard against mining-related patent applications.

The area west of French Gulch fits well with the long-term administration of the Deadwood area immediately west in Trinity County. Again, BLM is well suited for management of the multiple resource values of this area. Land consolidation would reduce current trespass problems, enhance the long-term protection of this portion of the deer winter range habitat, improve public access, enhance recreational opportunities, and improve overall resource management efficiency.

The Swasey Drive cultural resources ACEC has a number of prehistoric and historic sites which are uncommon in public stewardship. The proximity of a large population center has resulted in ongoing damage to these irreplaceable values. Special management atten-

tion is required and designation as an ACEC is warranted.

Lower Clear Creek could provide up to 6% of the anadromous fisheries production of the Sacramento River. Federal interests within the Clear Creek watersheds are considerable with BLM, National Park Service, and U.S. Forest Service astride or very near the creek along the majority of its course. The stream ends at the southern edge of the City of Redding and provides one of two (Sacramento River to Shasta Dam being the other) prime opportunities to develop a greenway connecting this population center to significant Federally-administered public lands. This greenway will benefit local and regional residents alike. The lower portion of the creek can benefit tremendously from community involvement in the enhancement of anadromous salmonid habitat and riparian habitat restoration projects. Above Clear Creek Road bridge the canyon and Mule Mountain ridge provide additional primitive recreation opportunities, non-motorized access, and a scenic backdrop to users. Maintaining a mineral withdrawal on existing and future public lands within the 100-year flood plain while allowing a recreational mineral collection permit system will enhance BLM's ability to protect and manipulate the riparian zone while allowing non-impairing recreational use.

The remainder of the management area has limited apparent public values with the exception of specific parcels for use by local, state, and/or non-profit entities. Provision of open space to benefit local residents, although a noteworthy purpose, is more properly a concern of local governments. The Federal government collectively has provided abundant open space within easy commuting distance of Redding. With development of greenways along Clear Creek and the Sacramento River, the BLM is affirmatively providing additional opportunities with regional importance. Provision of additional open space would principally (if not solely) benefit the adjoining residents.

The "no surface occupancy" restriction on mineral leasing, and the locatable mineral withdrawals on the specific lands, are warranted to protect the natural and cultural values identified in certain key areas of this management area. Lesser restrictions, such as those contained in the 43 CFR 3809 Regulations and standard mineral lease terms and conditions, were considered and deemed inadequate to protect these values.

SACRAMENTO RIVER MANAGEMENT AREA

MANAGEMENT AREA: SACRAMENTO RIVER

ALTERNATIVE: NO ACTION

MAP (in packet): MAP 3-6a

I. RESOURCE CONDITION OBJECTIVES

A. Todd and Foster Islands

1. Maintain the islands in their natural condition.

B. Sacramento Island and Cottonwood Creek parcel

1. Maintain the quality and quantity of existing Class I riparian vegetation.
2. Afford a roaded natural recreation experience.

C. Reading Island

1. Maintain the recreation opportunities consistent with a roaded natural classification.
2. Maintain the quality and quantity of existing riparian vegetation.

D. Bend Area

1. Protect the riparian values of the Sacramento River and Paynes Creek improving the condition of Class II riparian habitat along Paynes Creek and the canal system.
2. Within riparian areas enhance (in descending order) water quality, fisheries, wildlife, scenic quality, and recreation.
3. Within upland zones emphasize wildlife and recreation.
 - a. Enhance 240 acres of upland habitat to increase carrying capacity for upland fauna.
 - b. Increase waterfowl use and nesting potential by developing 160 acres of wetlands.
4. Maintain present good range condition with at least 800 pounds of residual mulch per acre after the grazing season.

5. Maintain key "islands" of oak woodlands at a level of 70 square feet per acre basal area of oak trees along Inks Creek and 35 square feet per acre basal area elsewhere.

II. LAND USE ALLOCATIONS

A. Todd and Foster Islands

1. The islands are closed to motorized vehicles.
2. The Islands are open to mineral leasing with no surface occupancy.

B. Sacramento Island and Cottonwood Creek

1. The parcels are managed as Roaded Natural
2. Lands within the 100-year flood plain are available for mineral leasing with no surface occupancy. Remaining lands are available for mineral leasing with special stipulations.

C. Reading Island

1. The area is withdrawn from mineral entry.
2. The area is managed as Roaded Natural.

D. Bend Area

1. All public land within the 100-year flood zone is available for mineral leasing with no surface occupancy. Adjacent public lands within the river corridor are available for mineral leasing with special stipulations.
2. Public lands near public roads (excepting the rural Bend area) are managed as Roaded Natural. Remaining public lands are managed as Semi-Primitive motorized.
3. Jellys Ferry and the mouth of the Inks Creek vicinity are closed to camping.
4. Wetlands and Riparian zones are closed to livestock grazing.
5. Fuelwood gathering is limited to dead and down material within 50 feet of designated roads. Other areas should include as feasible 2-4 dead and down trees as well as 2-4 hardwood snags (larger than 10 inches in diameter) per acre.
6. Motorized vehicle use is limited to designated roads and trails.

7. Forage excess to wildlife and residual mulch needs in the upland areas are allocated to livestock grazing during the season of use (November 1 - April 30).

8. All public lands related to water-based recreation are managed as VRM Class II.

9. Acquire private lands as indicated in the Lands Acquisition Handbook.

10. Group uses or events require a Special Recreation Use Permit.

11. Target shooting is limited to a designated area within Section 14, T. 28 N., R. 3 W. All other public lands are open to licensed hunters shooting at game within legal seasons.

12. Designate the riparian zone as an ACEC.

E. Remainder of Management Area

1. Two parcels of land encompassing approximately 80 acres available for disposal via sale.

2. All public land interests not noted above may be available for disposal via exchange on a case by case basis for higher public values elsewhere.

III. MANAGEMENT ACTIONS

A. Todd and Foster Islands

1. Conduct annual inspections to identify any noticeable changes in the natural condition of the islands.

B. Sacramento Island and Cottonwood Creek parcel

1. Conduct annual inspections to identify any noticeable changes in the natural condition and human use of these parcels.

C. Reading Island

1. Maintain the existing mineral withdrawal.
2. Keep the facility open to recreational use on a perennial basis.
3. Maintain the condition of the recreational facilities.

4. Provide staffing to administer the facility during the visitor use season.

D. Bend Area

1. Develop and maintain the following recreational facilities:

- a. Roads from Perry Riffle, Paynes Creek, and Section 1, T. 28 N., R. 3 W., to the entrance from Bend Ferry Road.
- b. Hiking trails along the Sacramento River and Paynes Creek.
- c. Shooting facilities in Section 14, T. 28 N., R. 3 W.
- d. Boat-in camping facilities at Massacre Flat.
- e. Boat access at Jellys Ferry.
- f. Restrooms at Perry Riffle, Massacre Flat, Inks Creek, and Jellys Ferry (existing).
- g. Interpretive signs as necessary.

2. Post and sign public land boundaries road closures, and designated uses.

3. Conduct annual residual mulch monitoring of grazing usage and maintain livestock enclosures.

4. Prepare a fire management plan in cooperation with California Department of Forestry and Fire Protection.

5. Invite the State of California and Tehama County to cooperate with BLM and others in preparing a suitability report for the potential inclusion of the Sacramento River into the National Wild and Scenic Rivers System.

6. Designate the Sacramento River riparian zone an ACEC.

7. Implement vegetation and water management to favor oak woodlands, wetlands, riparian vegetation and dependent species. Incorporate the desired plant community prescriptions for the ecological sites noted in Appendix B of this document.

MANAGEMENT AREA: SACRAMENTO RIVER

ALTERNATIVE: ADMINISTRATIVE ADJUSTMENT

MAP (in packet): MAP3-6b

I. RESOURCE CONDITION OBJECTIVES

A. Bend Area

Same as NO ACTION ALTERNATIVE.

B. Reading Island

Same as NO ACTION ALTERNATIVE.

C. Cottonwood Creek and Sacramento River parcels

1. Protect the riparian values of these scattered public lands.

2. Enhance the resource management efficiency and public service mission of local, state, and Federal agencies as well as conservation organizations via transfer of administration of specific public lands from BLM.

D. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of scattered public land interests within the Sacramento River Management Area.

II. LAND USE ALLOCATIONS

A. Bend Area

Same as NO ACTION ALTERNATIVE.

B. Reading Island

Same as NO ACTION ALTERNATIVE.

C. Cottonwood Creek and Sacramento River parcels

1. Transfer jurisdiction on parcels of public lands on Cottonwood Creek and the Sacramento River above Balls Ferry and below Red Bluff to qualified public agencies or conservation organizations to afford long term protection of the riparian values.

2. Parcels are closed to motorized vehicle use.

3. Withdraw the parcels from mineral entry.

4. Offer for mineral leasing with no surface occupancy.

5. Mineral material disposals are not permitted unless such actions benefit the natural values.

6. The lands are closed to livestock grazing.

7. Manage as Semi-Primitive Motorized (to allow boat access).

8. Manage as VRM Class II.

D. Remainder of Management Area

1. Two parcels of land encompassing approximately 80 acres are available for disposal via exchange or sale.

2. All public land interests not noted above in II A-D(1-2) are available for exchange.

III MANAGEMENT ACTIONS

A. Bend Area

Same as NO ACTION ALTERNATIVE.

B. Reading Island

Same as NO ACTION ALTERNATIVE.

C. Cottonwood Creek and Sacramento River Parcels

Contact public agencies and conservation organizations regarding potential administration of Cottonwood Creek and the scattered Sacramento River parcels.

D. Remainder of Management Area

1. Invite the State of California, the counties of Shasta and Tehama, and the interested public to participate in a cooperative report to determine the suitability of Battle Creek and Paynes Creek for inclusion in the National Wild and Scenic Rivers System.

2. Publish Federal Register notices regarding vehicle designations and mineral withdrawals.

3. Conduct resource inventories (archaeological, special status species, hazardous materials, and minerals) on lands available for exchange, sale, or administrative transfer.

MANAGEMENT AREA: SACRAMENTO RIVER

ALTERNATIVE: ENHANCEMENT OF NATURAL AND CULTURAL VALUES (proposed action)

MAP (in packet): **MAP 3-6c**

I. RESOURCE CONDITION OBJECTIVES

A. Sacramento Island

1. Improve and increase the Great Valley - Valley Oak riparian Forest.
2. Improve anadromous salmonid habitat.
3. Enhance existing and develop additional waterfowl habitats.

B. Cottonwood Creek and Sacramento River parcels

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

1. Protect the riparian values of these scattered public lands.
2. Enhance the resource management efficiency and public service mission of local, state, and Federal agencies as well as conservation organizations via transfer of administration of specific public lands from BLM.

C. Hawes Corner

1. Ensure the long term survival of Orcuttia tenuis.

D. Bend Area

1. Protect existing and improve degraded riparian vegetation to Class I and II.
2. Enhance wetlands (native and human made) and dependent species.
3. Conserve archaeological resources.
4. Enhance anadromous fisheries.
5. Ensure long term survival of special status species.
6. Maintain and improve, if feasible, visual quality.
7. Provide semi-primitive recreation opportunities.

E. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of scattered public land interests within the Sacramento River Management area.

II. LAND USE ALLOCATIONS

A. Sacramento Island

1. Designate as a Research Natural Area/ACEC
2. Withdraw from mineral entry.
3. Offer for mineral leasing with no surface occupancy.
4. Allow mineral material disposals only if such actions are intended to enhance the natural values, i.e., anadromous salmonid habitat, waterfowl habitat, or long-term vegetation management.
5. Manage as Semi Primitive Motorized.
6. The area is closed to motorized vehicles.
7. Manage as VRM Class II.
8. The area is closed to livestock grazing.
9. Acquire adjacent lands to enhance manageability.

B. Cottonwood Creek and Sacramento River parcels

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

1. Transfer jurisdiction of parcels of public lands on Cottonwood Creek and the Sacramento River above Balls Ferry and below Red Bluff to qualified public agencies or conservation organizations to afford long term protection of the riparian values.
2. Parcels are closed to motorized vehicle use.
3. Withdraw the parcels from mineral entry.
4. Offer for mineral leasing with no surface occupancy.
5. Mineral material disposals are not permitted unless such actions benefit the natural values.

6. The lands are closed to livestock grazing.

7. Manage as Semi-Primitive Motorized (to allow boat access)

8. Manage as VRM Class II

C. Hawes Corner

1. Designate as a Research Natural Area/ACEC.

2. Area is closed to grazing.

3. Area is closed to vehicles.

4. Acquire privately owned portion of Orcuttia tenuis habitat or develop cooperative management agreement to protect the habitat.

D. Bend Area

1. Designate as an Outstanding Natural Area/ACEC.

2. Manage as Semi Primitive Motorized and Roded Natural.

3. Offer lands for mineral leasing with no surface occupancy within one mile of the Sacramento River.

4. Vehicle use is limited to designated roads and trails.

5. Manage as VRM Class II.

6. Allow grazing in upland areas as a means to improve the desired plant community. Close the riparian areas to grazing.

7. Permit mineral material disposals only if such action (will not adversely affect the habitat or management of the desired plant community.

8. Acquire unimproved private lands which (in descending priority): contain high priority habitat along the Sacramento River as depicted in the 1988 Sacramento River Riparian Atlas, front the Sacramento River, provide physical access to public land, contain known/potential wetland or special status species habitat, contain important cultural resources, or facilitate overall public management within the area.

E. Remainder of Management Area

1. Two parcels of land encompassing approximately 80 acres are available for disposal via exchange or sale.

2. All public land interests not noted above in II A-E(1) are available for exchange.

III. MANAGEMENT ACTIONS

A. Sacramento Island

Develop a Research Natural Area/ACEC management plan for Sacramento Island which identifies specific land acquisition and cooperative agreement needs for adjoining private lands, establishes a desired plant community for the river and adjacent ecological sites, identifies waterfowl and anadromous salmonid habitat improvement actions, and depicts necessary management facilities to disallow vehicle use while promoting pedestrian use.

B. Cottonwood Creek and Sacramento River Parcels

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

Contact public agencies and conservation organizations regarding potential administration of Cottonwood Creek and the scattered Sacramento River parcels.

C. Hawes Corner.

Contact adjoining landowner(s) to help protect the Orcuttia tenuis habitat or to purchase the private interests. Secure an administrative easement to provide access for management and install necessary facilities to preclude vehicle or grazing usage of the habitat. Develop a Research Natural Area/ACEC management plan to identify protection and monitoring needs.

D. Bend Area.

Amend or replace the existing Sacramento River Area Management Plan to incorporate the increased geographic focus and specific resource condition objectives of this management alternative. Determine the suitability of Battle Creek and Paynes Creek for inclusion in the National Wild and Scenic Rivers System. Incorporate the results of this determination and attendant management practices into the above area management plan. Incorporate the desired plant community prescriptions for the ecological sites noted in Appendix B of this document. Offer BLM assistance to the State of California and the counties of Shasta and Tehama to cooperatively develop a report to determine the suitability of the Sacramento River between Anderson and Red Bluff for inclusion in the National Wild and Scenic Rivers System.

E. Publish Federal Register notices regarding designation of three ACEC's, intention to conduct a suitability report for inclusion of Battle Creek and Paynes Creek into the National Wild and Scenic Rivers System, and vehicle designations.

F. Contact public agencies and conservation organizations regarding potential administration of Cottonwood Creek and the scattered Sacramento River parcels.

G. Conduct resource inventories (archaeological, special status species, hazardous materials, and minerals) on lands available for exchange, sale, or administrative transfer.

MANAGEMENT AREA: SACRAMENTO RIVER

ALTERNATIVE: RESOURCE USE WITH NATURAL VALUES CONSIDERATION

MAP (in packet): MAP 3-6d

I. RESOURCE CONDITION OBJECTIVES

A. Sacramento Island

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. Improve and increase the Great Valley - Valley Oak Riparian Forest.
2. Improve anadromous salmonid habitat.
3. Enhance existing and develop additional waterfowl habitats.

B. Cottonwood Creek and Sacramento River parcels

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

1. Protect the riparian values of these scattered public lands.
2. Enhance the resource management efficiency and public service mission of local, state, and Federal agencies as well as conservation organizations via transfer of administration of specific public lands from BLM.

C. Hawes Corner

1. Protect the existing Orcuttia tenuis population.

D. Bend Area

1. Enhance non-motorized recreation opportunities.
2. Protect the existing quality and quantity of riparian vegetation.
3. Enhance the anadromous fisheries.
4. Conserve archaeological resources.
5. Protect existing wetland habitat and dependent species.
6. Protect special status species.
7. Enhance motorized public access.
8. Continue upland grazing.
9. Allow mineral development.
10. Maintain upland plant communities and associated wildlife.
11. Maintain existing scenic quality.

E. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of scattered public land interests within the Sacramento River Management area.

II. LAND USE ALLOCATIONS

A. Sacramento Island

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. Designate as a Research Natural Area/ACEC
2. Withdraw from mineral entry.
3. Offer for mineral leasing with no surface occupancy.
4. Allow mineral material disposals only if such actions are intended to enhance the natural values, i.e., anadromous salmonid habitat, waterfowl habitat, or long-term vegetation management.

5. Manage as Semi Primitive Motorized.
6. The area is closed to motorized vehicles.
7. Manage as VRM Class II.
8. The area is closed to livestock grazing.
9. Acquire adjacent lands to enhance manageability.

B. Cottonwood Creek and Sacramento River parcels

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVES.

1. Transfer jurisdiction on parcels of public lands on Cottonwood Creek and the Sacramento River above Balls Ferry and below Red Bluff to qualified public agencies or conservation organizations to afford long term protection of the riparian values.

2. Parcels are closed to motorized vehicle use.
3. Withdraw the parcels from mineral entry.
4. Offer for mineral leasing with no surface occupancy.
5. Mineral material disposals are not permitted unless such actions benefit the natural values.
6. The lands are closed to livestock grazing.
7. Manage as Semi-Primitive Motorized (to allow boat access).
8. Manage as VRM Class II.

C. Hawes Corner

1. Area is closed to grazing.
2. Area is closed to vehicles.
3. Acquire title or develop a cooperative agreement to protect the privately owned portion of the habitat.

D. Bend Area

1. Manage as VRM Class III.
2. Manage as Roaded Natural and Semi-Primitive Motorized.

3. All upland forage excess to wildlife needs are allocated to livestock grazing during the season of use (November 1 - April 30)

4. Fuelwood gathering is limited to dead and down material within 50 feet of designated roads.

5. Motorized vehicle use is limited to designated roads and trails.

6. All public land within the 100 year flood zone is available for mineral leasing with no surface occupancy.

7. Acquire unimproved private lands which (in descending priority): provide physical access to the Sacramento River, provide physical access to public land, facilitate overall public management of the area, contain important or critical habitat, or contain important cultural resources.

E. Remainder of Management Area

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. Two parcels of land encompassing approximately 80 acres are available for disposal via exchange or sale.

2. All public land interests not noted above in II-A-E(1) are available for exchange.

III. MANAGEMENT ACTIONS

A. Sacramento Island

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

Develop a Research Natural Area/ACEC management plan for Sacramento Island which identifies specific land acquisition and cooperative agreement needs for adjoining private lands, establishes a desired plant community for the river and adjacent ecological sites, identifies waterfowl and anadromous salmonid habitat improvement actions, and depicts necessary management facilities to disallow vehicle use while promoting pedestrian use.

B. Cottonwood Creek and Sacramento River parcels

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE.

Contact public agencies and conservation organizations regarding potential administration of Cottonwood Creek and the scattered Sacramento River parcels.

C. Hawes Corner

Contact adjoining landowner(s) to help protect the Orcuttia tenuis habitat or to purchase the private interests. Secure an administrative easement to provide access for management and install necessary facilities to preclude vehicle or grazing usage of the habitat. Perform annual monitoring to establish the long-term trend of the population under natural conditions.

D. Bend Area

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

Amend or replace the existing Sacramento River Area Management Plan to incorporate the increased geographic focus and specific resource condition objectives of this management alternative. Determine the suitability of Battle Creek and Paynes Creek for inclusion in the National Wild and Scenic Rivers System. Incorporate the results of this determination and attendant management practices into the above area management plan. Incorporate the desired plant community prescriptions for the ecological sites noted in Appendix B of this document. Offer BLM assistance to the State of California and the counties of Shasta and Tehama to cooperatively develop a report to determine the suitability of the Sacramento River between Anderson and Red Bluff for inclusion in the National Wild and Scenic Rivers System.

E. Publish Federal Register notice regarding designation of one ACEC, intention to conduct a suitability report for inclusion of Battle Creek and Paynes Creek into the National Wild and Scenic Rivers System, and vehicle designations.

F. Contact public agencies and conservation organizations regarding potential administration of Cottonwood Creek and the scattered Sacramento River parcels.

G. Conduct resource inventories (archaeological, sensitive species, hazardous materials, and minerals) on lands available for exchange, sale, or administrative transfer.

MANAGEMENT AREA: SACRAMENTO RIVER

RATIONALE FOR THE PROPOSED ACTION (ENHANCEMENT OF NATURAL VALUES)

Map (in packet): Map 3-6c

The Sacramento River is the dominant geographic feature of northern California. Due to its central location and proximity to many towns and cities (including the State capitol), it is attractive and accessible to a large, increasingly urban population. Due to modern human activities, 95% of the native riparian vegetation and habitat has been destroyed. The river provides 70% of the annual ocean harvest of salmon along the California coastline. This fisheries is imperiled due to continuing habitat loss and degradation.

Although public ownership is limited along much of this important river, public sector leadership is necessary to help restore and protect the sensitive habitat of this nationally significant river. Given the importance of the recreational opportunities and the regional and national significance of the natural values, the segment of the Sacramento River between Balls Ferry Bridge and the gaging station below Sevenmile Creek is considered eligible for inclusion in the National Wild and Scenic Rivers System and should be managed as an Outstanding Natural Area to protect the increasingly important values associated with the river.

Battle Creek and Paynes Creek contain riparian values in excellent condition and warrant consideration for inclusion in the National Wild and Scenic Rivers System.

BLM has taken an affirmative role in the protection of slender Orcutt grass (Orcuttia tenuis). Under the proposed action BLM can further guard against the loss of Orcuttia tenuis habitat and may lessen the need to have the species listed as threatened or endangered by the U.S. Fish and Wildlife Service.

Sacramento Island near Knighton Road is the northernmost high priority critical habitat (in native condition) along the Sacramento River. The location of this increasingly important habitat near a large population center necessitates special management attention and warrants management as a Research Natural Area/Area of Critical Environmental Concern.

The small amount of public land and mineral development restrictions will have little impact on the mineral industry nor the local, regional, or State economy.

Transfer of Cottonwood Creek and Sacramento River parcels south of Red Bluff to other public agencies fully recognizes the natural values of these scattered public lands and provides for simple administration by other agencies equally committed to the habitat.

The "no surface occupancy" restriction on mineral leasing, and the locatable mineral withdrawals on the specified lands, are warranted to protect the natural and cultural values identified in certain key areas of this management area. Lesser restrictions, such as those contained in the 43 CFR 3809 regulations and standard mineral lease terms and conditions, were considered and deemed inadequate to protect these values.

ISHI MANAGEMENT AREA

MANAGEMENT AREA: ISHI

ALTERNATIVE: NO ACTION

MAP (in packet): MAP 3-7a

I. RESOURCE CONDITION OBJECTIVES

A. Battle Creek

1. Produce forage for wildlife and livestock with at least 500 pounds of residual mulch per acre after the grazing season.
2. Maintain existing watershed conditions and water quality.
3. Maintain the present quality and quantity of riparian vegetation at Class II.

B. Deer Creek

1. Afford long-term protection to nesting raptors.
2. Protect archaeological resources.
3. Protect the wilderness values on public land within Section 14, T. 25 N., R. 1 E.

C. Butte Creek

1. Emphasize recreational use within the canyon.
2. Emphasize forestry management outside the canyon.
3. Allow mineral commodity production outside the canyon.
4. Protect the anadromous fisheries habitat.
5. Maintain the quantity and quality of riparian vegetation.

D. Oroville

1. Protect the watershed and viewshed of Lake Oroville.
2. Use forestry management practices to enhance or protect other resource values.

3. Enhance upland wildlife habitat.
4. Accommodate recreation use and development.

E. Remainder of Management Area

1. Maintain supply of forest products from available commercial forest lands.
2. Maintain existing good range conditions with at least 400 pounds of residual mulch per acre after the grazing season.
3. Maintain and improve if possible deer winter range habitat conditions.
4. Improve resource management efficiency within the management area through land exchanges on an opportunity basis.
5. Maintain the existing quality and quantity of riparian vegetation on public lands along Butte, Campbell, Chico, Mud and Rock creeks.
6. Protect the anadromous fisheries habitat on public land on Bear Creek and lower Little Cow Creek.
7. Maintain recreational opportunities of the Upper Ridge Nature Preserve in cooperation with the Upper Ridge Wilderness Association.

II. LAND USE ALLOCATIONS

A. Battle Creek

1. Managed as Roaded Natural and Semi-Primitive Motorized.
2. The area is designated as open to motorized vehicle use.
3. Public land in proximity to Battle Creek is offered for mineral leasing with no surface occupancy.
4. Forage in excess of wildlife needs is allocated to livestock.

B. Deer Creek

1. 200 acres of public land is Section 14, T. 25 N., R. 1 E., are designated as wilderness.
2. All public lands outside the wilderness boundary are managed as Semi-Primitive Motorized.

3. Public lands within Deer Creek canyon and the wilderness are designated as closed to motorized vehicles. All other public lands are designated as open to motorized vehicles.

C. Butte Creek

1. 1927 acres of public land are withdrawn from mineral entry. 427 acres of this total have been recommended for revocation of the withdrawal.

2. Recreational mineral collection is permitted within the canyon through a permit system.

3. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

4. The area is managed as Roaded Natural.

5. Vehicles are limited to designated roads and trails.

D. Oroville

1. Public land in Section 32, T. 20 N., R. 5 E., is limited to motorized vehicle use on designated roads and trails.

2. All other public lands are open to motorized vehicle use.

3. The area is managed as Semi-Primitive Motorized and Roaded Natural.

4. The area is offered for mineral leasing with special stipulations on steep, fragile (granitic) slopes surrounding Lake Oroville.

5. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

E. Remainder of the Management Area

1. Campbell, Mud, and Rock creeks are available for mineral leasing with special stipulations.

2. 38 parcels of land encompassing approximately 1300 acres are available for disposal via sale.

3. 20 acres in Section 13, T. 23 N., R. 3 E., are under a Recreation and Public Purposes Act (R&PP) lease to the Paradise Irrigation District.

4. 15 acres in Section 24, T. 31 N., R. 1 E are under an airport lease to Shasta County.

5. 3 parcels are classified for small tracts.

6. 3 lapsed Recreation and Public Purposes Act (R&PP) classifications occur in the area.

7. Numerous waterpower withdrawals exist under BLM and Federal Energy Regulatory Commission authorities.

8. All lands are open to motorized vehicles.

9. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

10. Public land interests are available for exchange for higher public values elsewhere on a case-by-case basis.

III. MANAGEMENT ACTIONS

A. Battle Creek

1. Continue annual monitoring of grazing use.

B. Deer Creek

1. Administer 200 acres of wilderness in cooperation with the Lassen National Forest.

2. Acquire privately owned lands above the diversion dam

C. Butte Creek

1. Complete a recreation management plan for the area.

2. Acquire adjoining lands and easement(s) within the area as identified in the Lands Acquisition Handbook to permit public use and enhance forest management.

3. Monitor seasonal recreational use.

4. Continue the recreational mineral collecting permit system.

5. Revoke the mineral withdrawal on 427 acres and continue the withdrawal on 1500 acres within the recreation use area. Extend the withdrawal as necessary to acquired lands within this use area.

6. Implement the recommendations of the final recreation management plan.

7. Maintain a sustained yield harvest from the available commercial forest land.

D. Oroville

1. Annually monitor the condition of the Martin plot.

2. Continue implementation of the Coordinated Resource Plan with the California Department of Water Resources (and others) of the management of the watershed.

3. Maintain a sustained yield harvest from the available commercial forest land.

E. Remainder of the Management Area

1. Terminate all classifications, lapsed Recreation and Public Purposes Act (R&PP) leases, and unused water-power withdrawals.

2. Continue the R&PP lease with the Paradise Irrigation District and consider sale under the R&PP Act.

3. Continue cooperative management of the Upper Ridge Nature Area.

4. Improve an average of at least 100 acres of deer habitat within the entire management area on an annual basis.

5. Continue annual monitoring of grazing use.

MANAGEMENT AREA: ISHI

ALTERNATIVE: ADMINISTRATIVE ADJUSTMENT

MAP (in packet): MAP 3-7b

I. RESOURCE CONDITION OBJECTIVES

A. Forks of Butte Creek

1. Enhance the semi-primitive recreation opportunities within the canyon.

2. Maintain the scenic quality of the canyon.

3. Maintain the anadromous salmonid habitat.

4. Enhance the supply of forest products above the canyon area.

5. Facilitate mineral development in the upland areas.

6. Maintain existing hydroelectric facilities at current levels.

B. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of scattered public land interests within the Ishi management area.

2. Enhance the resource management efficiency and public service mission of local, state, and Federal agencies via transfer of specific public lands from BLM.

3. Afford opportunities to meet specific community development needs for Federally recognized Indian tribes.

II. LAND USE ALLOCATIONS

A. Forks of Butte Creek

1. Withdraw all canyon lands within 1/4 mile of Butte Creek and the West Branch of Butte Creek from mineral entry and allow recreational mineral collection under a permit system. Offer lands within this canyon zone for mineral leasing with no surface occupancy. Manage this canyon zone as VRM Class II. Allow forest management practices only if such actions enhance the long term visual quality or semi-primitive recreation experience. Designate the canyon zone as an Outstanding Natural Area/ACEC.

2. Manage the entire area as Semi Primitive Motorized.

3. Vehicle use is limited to designated roads and trails.

4. All of the available commercial forest land within Butte Creek canyon would be managed for the enhancement of other resource values. Other available commercial forest land would be managed primarily as restricted. See Appendix G for acreage assigned to the various management categories.

5. Acquire unimproved private lands which (in descending order) are located on the creek(s), within the ACEC, provide physical access to public lands, or are productive commercial forest lands.

B. Remainder of the Management Area

1. Transfer to Shasta county via Airport Grant or exchange 15 acres of public land at Shingletown Airport in Section 24, T. 31 N., R. 1 E.

2. Active long-term administration of all public land within the study corridor of Mill Creek and/or adjacent to the Gray Davis/Dye Creek Ranch Preserve will be in cooperation with The Nature Conservancy. Management will be consistent with the objective of the approved land use plan of the Preserve.

3. Transfer via exchange, the Recreation and Public Purposes Act (R&PP), or cooperative agreement administrative responsibility of forty acres within the Tehama Wildlife Management Area (Section 6, T. 27 N., R. 1 W.).

4. Transfer via exchange or R&PP to the City of Chico, the County of Butte, or other qualified organization title to thirteen parcels of public land in Big Chico Creek canyon (between Highway 32 and Musty Buck Ridge) encompassing approximately 1200 acres. Offer for exchange to any party after two years from the approval of the Final RMP.

5. Transfer via exchange or R&PP to the Paradise Irrigation District twenty acres of public land on Little Butte Creek in Section 13, T. 23 N., R. 3 E.

6. Transfer via R&PP or exchange to the Upper Ridge Wilderness Association or other qualified organization title to approximately 120 acres of public land in Section 35, T. 23 N., R. 3 E. commonly referred to as the Upper Ridge Nature Preserve.

7. Transfer via R&PP or exchange to a qualified state/local agency or non-profit organization administrative responsibility of six parcels of public land encompassing approximately 800 acres in the West Branch Feather River (between Magalia Reservoir and Lake Oroville). Offer for exchange to any party after two years from approval of the Final RMP.

8. Transfer via exchange or R&PP to a qualified organization administrative responsibility of 35 acres of public land in Lower Butte Creek (near Honey Run Bridge) within the NW 1/4 of Section 36, T. 22 N., R. 2 E. Offer for exchange to any party after two years from approval of the Final RMP.

9. Transfer via exchange or R&PP to the State of California all surface and submerged public lands encompassing approximately 6,400 acres within and adjacent to the Lake Oroville State Recreation Area. All lands identified by California or BLM as excess to park needs will be offered for exchange to any party after two years from approval of the Final RMP.

10. 200 acres of public near the land Middle Fork Feather River (W 1/2 Section 4, T. 20 N., R. 6 E.) are suitable for community development purposes as a reservation for Federally recognized Indian tribe(s). If congressional support is unavailable, offer for exchange to any party after five years from the approval of the Final RMP.

11. Transfer via exchange or R&PP to Butte County or other qualified organization administration of the Forbestown Cemetery encompassing approximately 2.5 acres in the NE 1/4 of Section 10, T. 19 N., R. 6 E.

12. Transfer jurisdiction of twelve parcels of public land encompassing approximately 1050 acres to the Shasta, Lassen, and Plumas National Forests. These parcels include: Pit River (NE 1/4 of NW 1/4 and NW 1/4 of NE 1/4 Section 34, T. 35 N., R. 1 W.), Dan Hunt Mountain portion of a California Spotted Owl Habitat Area (400 acres in Sections 3, 7, and 8, T. 33 N., R. 2 E.), Deadhorse Falls (Section 6, T. 28 N., R. 3 E.), Ishi Wilderness (Section 14, T. 25 N., R. 1 E.), Devils Kitchen (NE 1/4, Section 12, T. 25 N., R. 2 E.), Middle Fork Feather River (E 1/2, Section 4, T. 20 N., R. 6 E.) Forbestown (N 1/2, section 10, T. 19 N., R. 6 E.), and Lumpkin Ridge (SE 1/4 of SW 1/4 Section 36, T. 21 N., R. 7 E.)

13. Terminate all lapsed R&PP lease and small tract classifications. Revoke all unused waterpower withdrawals.

14. Thirty-seven parcels of land encompassing approximately 1260 acres are available for disposal via exchange or sale.

15. All public land interests not noted above in II A-B (1-14) are available for exchange.

16. The available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to this management category.

III. MANAGEMENT ACTIONS

A. Develop an integrated resource activity plan for the Forks of Butte Creek which identifies: specific land acquisition needs, required access, cooperative management opportunities, management facility locations, Outstanding Natural Area/ACEC boundaries, permissible actions, and necessary monitoring.

B. Develop a suitability report for the final classification and potential inclusion of Butte Creek in the National Wild and Scenic Rivers System.

C. Develop an agreement with The Nature Conservancy for the long term administration of public lands adjacent to the Gray Davis/Dye Creek Ranch Preserve.

D. Contact the State of California and the counties of Shasta, Tehama, and Butte regarding development of reports addressing the suitability of Battle, Mill, and Deer creeks for inclusion in the National Wild and Scenic Rivers System. Assist these agencies as feasible in development of these report(s).

E. Develop agreements and/or legislative amendments to modify the boundaries of the Shasta, Lassen, and Plumas National Forests to include the parcels of public land noted above in II B (12).

F. Contact the State of California, Counties of Shasta and Butte, City of Chico, and appropriate local organizations regarding acquisition or administrative transfer of public land parcels noted above in II B (2-11).

G. Publish Federal Register notice(s) regarding vehicle designations, the Outstanding Natural Area/ACEC designation, mineral withdrawal, and the intent to develop a report addressing the suitability of Butte Creek for inclusion in the National Wild and Scenic Rivers System.

H. Conduct resource inventories (archaeological, special status species, hazardous materials minerals, and timber) on lands available for exchange, sale, or administrative transfer.

I. Maintain a sustained yield harvest from the available commercial forest land.

MANAGEMENT AREA: ISHI

ALTERNATIVE: ENHANCEMENT OF NATURAL AND CULTURAL VALUES

MAP (in packet): MAP 3-8a

I. RESOURCE CONDITION OBJECTIVES

A. Battle Creek

1. Enhance the anadromous and resident fisheries.
2. Maintain the scenic quality of the corridor.
3. Protect the wildlife habitat within the canyon.
4. Maintain and improve, if possible, the quantity and quality of riparian vegetation.
5. Improve semi-primitive recreation opportunities.

B. Deer Creek

1. Ensure long term protection of raptors within the canyon.
2. Protect the scenic quality of the canyon.
3. Maintain and improve, if feasible, the fisheries habitat of Deer Creek.
4. Conserve the archaeological resources of the canyon.
5. Maintain the primitive recreation opportunities within the canyon.

C. Forks of Butte Creek

1. Protect and enhance the scenic quality of the canyon.
2. Maintain the fisheries habitat.
3. Improve the quality of riparian vegetation to Class I.
4. Maintain semi-primitive recreation opportunities.
5. Protect the historic values of the canyon.

D. Minnehaha Mine

1. Stabilize the ongoing erosion due to past mining practices.

2. Enhance water quality of Big Chico Creek.
3. Enhance the safety of human users of this area.

E. Upper Ridge Nature Preserve

1. Maintain the undeveloped character of Middle Butte Creek.
2. Expand semi-primitive recreation opportunities of the area.
3. Protect the mixed evergreen, riparian, oak woodland vegetation as well as the associated fauna.

F. Baker Cypress

1. Protect the habitat and existing stands of Baker cypress.
2. Encourage research of this species in conjunction with genetic and habitat studies of other stands of Baker cypress.

G. Crystal Hill-Kanaka Peak

1. Afford long-term protection of prehistoric and historic resources.
2. Enhance access by Native American Indian populations and protect traditional uses of heritage areas.

H. Remainder of Management Area

1. Enhance the resource management efficiency and public service mission of local, state, and Federal agencies via transfer of specific public lands from BLM.
2. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of scattered public land interests within the Ishi management area.

II. LAND USE ALLOCATIONS

A. Battle Creek

1. Manage the area as Semi-Primitive Motorized.
2. Vehicle are limited to designated roads and trails.
3. Offer public lands within the corridor for mineral leasing with no surface occupancy.

4. Mineral material disposals are not permitted unless such actions enhance the natural values, i.e. fisheries habitat or riparian vegetation recovery.

5. The corridor is closed to new livestock grazing permits.

6. Manage the corridor as VRM Class II.

7. Acquire unimproved privately owned interests in the corridor.

B. Deer Creek

1. 200 acres in Section 14, T. 25 N., R. 1 E are designated as wilderness

2. Manage the area as VRM Class I.

3. Manage as Semi-Primitive Non-Motorized.

4. The area is closed to vehicles.

5. Offer public lands for mineral leasing with no surface occupancy.

6. The area is closed to livestock grazing.

7. Designate the area as ACEC.

8. Mineral material disposals are not permitted.

9. Acquire privately owned undeveloped lands within the canyon.

C. Butte Creek

1. Designate Butte Creek canyon between Portuguese Point and the Centerville Bridge as an Outstanding Natural Area/ACEC.

2. Manage as Semi-Primitive Motorized.

3. Vehicle use is limited to designated roads and trails.

4. Withdraw public lands from mineral entry.

5. Recreational mineral collection is permitted within the canyon through a permit system.

6. Forest management actions are permitted only if such actions enhance the natural values or the semi-primitive recreation experience.

7. Manage as VRM Class II.

8. The area is closed to grazing.

9. Acquire unimproved private lands to protect scenic quality and enhance the recreational experience.

D. Minnehaha

1. Designate as a hazardous ACEC.

2. Withdraw from mineral entry.

3. Public land is available for transfer to the State of California or local government via the Recreation and Public Purposes Act (R&PP) or exchange.

E. Upper Ridge Nature Preserve

1. Manage as VRM Class II.

2. Area is closed to motorized vehicles.

3. Withdraw area from mineral entry.

4. Offer for mineral leasing with no surface occupancy.

5. Acquire unimproved private lands and manage area in cooperation with the Upper Ridge Wilderness Association or other qualified organization.

F. Baker Cypress

1. Designate as a Research Natural Area/ACEC.

2. Mineral material sales are permitted only if such actions enhance Baker cypress habitat.

3. Area is closed to grazing.

4. Vehicles are limited to designated roads and trails.

5. Offer for mineral leasing with no surface occupancy.

G. Crystal Hill-Kanaka Peak

1. Vehicles are limited to designated roads and trails.

H. Remainder of Management Area

1. Transfer to Shasta County via Airport Grant or exchange 15 acres of public land at Shingletown Airport in Section 24, T. 31 N., R. 1 E.

2. Transfer jurisdiction of eleven parcels of public land encompassing approximately 850 acres to the Shasta,

Lassen and Plumas National Forests. These parcels include: Pit River (NE 1/4 of NW 1/4 and NW 1/4 of NE 1/4 Section 34, T. 35 N., R. 1 W.) Dan Hunt Mountain portion of a California Spotted Owl Habitat Area (400 acres in Sections 3, 7, & 8, T. 33 N., R. 2 E.), Deadhorse Falls (Section 6, T. 28 N., R. 2 E.), Devils Kitchen (NE 1/4 Section 12, T. 25 N., R. 2 E.), Middle Fork Feather River (E 1/2 Section 4, T. 20 N., R. 6 E.), and Forbestown (N 1/2, Section 36, T. 21 N., R. 7 E.).

3. Long-term administration of all public land within the Mill Creek study corridor and/or adjacent to the Gray Davis/Dye Creek Ranch Preserve will be in cooperation with The Nature Conservancy. Management will be consistent with the objectives of the approved land-use plan of the Preserve.

4. Transfer via exchange, R&PP, or cooperative agreement administrative responsibility of forty acres within the Tehama Wildlife Management Area (Section 6, T. 27 N., R. 1 W.).

5. Transfer via exchange or R&PP to the Paradise Irrigation District twenty acres of public land on Little Butte Creek in Section 13, T. 23 N., R. 3 E.

6. Transfer via R&PP or exchange the Martin plot including approximately 2.5 acres to the State of California (SE 1/4, Section 35, T. 20 N., R. 5 E.).

7. Terminate all lapsed R&PP lease and small tract classifications. Revoke all unused waterpower withdrawals.

8. Thirty-seven parcels of land encompassing approximately 1260 acres are available for disposal via exchange or sale.

9. All public land interests not noted above in II A-H (1-8) are available for exchange.

III. MANAGEMENT ACTIONS

A. Develop suitability report(s) for the final classification and potential inclusion of Battle, Butte, and Deer Creeks in the National Wild and Scenic Rivers System.

B. Contact the State of California and County of Tehama regarding development of report(s) addressing the suitability of Mill Creek for inclusion in the National Wild and Scenic Rivers System. Offer BLM assistance as feasible in development of these reports.

C. Develop ACEC management plans for Deer Creek and Forks of Butte Creek, and, an integrated resource activity plan for Battle Creek which identifies specific land acquisition needs, required access, cooperative management opportunities, management facility locations, ACEC boundaries, permissible actions, and necessary monitoring. The results of reports addressing the suitability for inclusion in the National Wild and Scenic Rivers System will be included as appropriate.

D. Develop agreements and/or legislative amendments to modify the boundaries of the Shasta, Lassen, and Plumas National Forests to include the parcels of public land noted above in II H (2).

E. Contact the State of California, County of Shasta, and appropriate local organizations regarding acquisition or transfer of public lands noted above in II H (1) and (4-7).

F. Publish Federal Register notices regarding vehicle designations, mineral withdrawals, ACEC designations, and Intent to develop a report(s) addressing the suitability of Battle, Butte, and Deer Creeks for inclusion in the National Wild and Scenic Rivers System.

G. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals and timber) on lands available for exchange, sale, or administrative transfer.

H. Develop an agreement with The Nature Conservancy for the long-term administration of public lands adjacent to the Gray Davis/Dye Creek Ranch Preserve.

I. Contact the State of California, Butte County, and other qualified organizations regarding the management of the Minnehaha ACEC. Develop an ACEC management plan in concert with interested agencies which addresses necessary stabilization actions and long-term public ownership.

MANAGEMENT AREA: ISHI

ALTERNATIVE: RESOURCE USE WITH NATURAL VALUES CONSIDERATION (proposed action)

MAP (in packet): MAP 3-8b

I. RESOURCE CONDITION OBJECTIVES

A. Battle Creek (below Manton Road)

1. Improve semi-primitive recreation opportunities.
2. Enhance anadromous fisheries.
3. Maintain and improve the quality and quantity of riparian vegetation.
4. Protect the wildlife habitat of the canyon.
5. Maintain the visual quality of the area.

B. Deer Creek

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. Ensure long term protection of raptors within the canyon.
2. Protect the scenic quality of the canyon.
3. Maintain and improve, if feasible, the fisheries habitat of Deer Creek.
4. Conserve the archaeological resources of the canyon.
5. Maintain the primitive recreation opportunities within the canyon.

C. Forks of Butte Creek

Same as the ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. Protect and enhance the scenic quality of the canyon.
2. Maintain the fisheries habitat.
3. Improve the quality of riparian vegetation to Class I.
4. Maintain semi-primitive recreation opportunities.

5. Protect the historic values of the canyon.

D. Minnehaha Mine

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. Stabilize the ongoing erosion due to past mining practices.
2. Enhance water quality of Big Chico Creek.
3. Enhance the safety of human users of this area.

E. Upper Ridge Nature Preserve

1. Maintain existing semi-primitive recreation opportunities in cooperation with the Upper Ridge Wilderness Association.

2. Protect the mixed evergreen, riparian and oak woodland vegetation as well as the associated fauna.

F. Baker Cypress

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. Protect the habitat and existing stands of Baker cypress.
2. Encourage research of this species in conjunction with genetic and habitat studies of other stands of Baker cypress.

G. Remainder of Management Area

Same as ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

1. Enhance the resource management efficiency and public service mission of local, state, and Federal agencies via transfer of specific public lands from BLM.

2. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of scattered public land interests within the Ishi management area.

II. LAND USE ALLOCATIONS

A. Battle Creek (below Manton Road)

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. Manage the area as Semi-Primitive Motorized.
2. Vehicle are limited to designated roads and trails.
3. Offer public lands within the corridor for mineral leasing with no surface occupancy.
4. Mineral material disposals are not permitted unless such actions enhance the natural values, i.e. fisheries habitat or riparian vegetation recovery.
5. The corridor is closed to new livestock grazing permits.
6. Manage the corridor as VRM Class II.
7. Acquire unimproved privately owned interests in the corridor.

B. Deer Creek

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. 200 acres in Section 14, T. 25 N., R. 1 E are designated as wilderness
2. Manage the area as VRM Class I.
3. Manage as Semi-Primitive Non-Motorized.
4. The area is closed to vehicles.
5. Offer public lands for mineral leasing with no surface occupancy.
6. The area is closed to livestock grazing.
7. Designate the area as ACEC.
8. Mineral material disposals are not permitted.
9. Acquire privately owned undeveloped lands within the canyon.

C. Forks of Butte Creek

1. Designate Butte Creek Canyon between the Forks of Butte Creek and Helltown as an Outstanding Natural Area/ACEC.
2. Manage as Semi-Primitive Motorized.
3. Vehicle use is limited to designated roads and trails.

4. Withdraw public lands from mineral entry.
5. Recreational mineral collection is permitted within the canyon through a permit system.
6. Manage as VRM Class II.
7. The area is closed to grazing.
8. Acquire unimproved private lands to protect scenic quality and enhance the recreational experience.
9. All of the available commercial forest land within Butte Creek canyon would be managed for the enhancement of other resource values. All other available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to these management categories.

D. Minnehaha Mine

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE

1. Designate as a hazardous ACEC.
2. Withdraw from mineral entry.
3. Public land is available for transfer to the State of California or local government via the Recreation and Public Purposes Act (R&PP) or exchange.

E. Upper Ridge Nature Preserve

1. Area is closed to motorized vehicles.
2. Withdraw area from mineral entry.
3. Offer for leasing with no surface occupancy.

F. Baker Cypress

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

1. Designate as a Research Natural Area/ACEC.
2. Mineral material sales are permitted only if such actions enhance Baker cypress habitat.
3. Area is closed to grazing.
4. Vehicles are limited to designated roads and trails.
5. Offer for mineral leasing with no surface occupancy.

G. Remainder of Management Area

1. Long-term administration of all public land within the Mill Creek Study corridor and/or adjacent to the Gray Davis/Dye Creek Ranch Preserve will be in cooperation with The Nature Conservancy. Management will be consistent with the objectives of the approved land-use plan of the Preserve.

2. Transfer via exchange, the Recreation and Public Purposes Act (R&PP), or cooperative agreement the administrative responsibility of forty acres within the Tehama Wildlife Management Area (Section 6, T. 27 N., R. 1 W.).

3. Transfer via exchange or R&PP to the City of Chico, the County of Butte or other qualified organization title to twelve parcels of public land in Big Chico Creek canyon (between Highway 32 and Musty Buck Ridge) encompassing approximately 1040 acres. Offer for exchange to any party after two years from the approval of the Final RMP.

4. Transfer via exchange or R&PP to the Paradise Irrigation District twenty acres of public land on Little Butte Creek in Section 13, T. 23 N., R. 3 E.

5. Transfer to Shasta County via Airport Grant or exchange fifteen acres of public land at Shingletown Airport in Section 24, T. 31 N., R. 1 E.

6. Transfer via R&PP or exchange to a qualified state/local agency or non-profit organization administrative responsibility of six parcels of public land encompassing approximately 800 acres in the West Branch Feather River (between Magalia Reservoir and Lake Oroville). Offer for exchange to any party after two years from approval of the Final RMP.

7. Transfer via exchange or R&PP to a qualified organization administrative responsibility of 35 acres of public land in lower Butte Creek (near Honey Run Bridge) within the NE 1/4 of Section 36, T. 22 N., R. 2 E. Offer for exchange to any party after two years from approval of the Final RMP.

8. Transfer via exchange or R&PP to the State of California all surface and submerged public lands encompassing approximately 6,400 acres adjacent to the Lake Oroville State Recreation Area. All lands identified by California or BLM as excess to park needs will be offered for exchange to any party after two years from approval from the Final RMP.

9. 200 acres of public land near the Middle Fork Feather River (W 1/2 of Section 4, T. 20 N., R. 6 E.) are suitable for community development purposes as a reservation for Federally recognized Indian tribe(s). If congressional support is unavailable, offer for exchange to any party after five years from the approval of the Final RMP.

10. Transfer via R&PP or exchange to Butte County or other qualified organization administration of the Forbestown Cemetery encompassing approximately 2.5 acres of public land in the NE 1/4 of Section 10, T. 19 N., R. 6 E.

11. Transfer jurisdiction of twelve parcels of public land encompassing approximately 1050 acres to the Shasta, Lassen, and Plumas National Forests. These parcels include: Pit River (NE 1/4 of NW 1/4 and NW 1/4 of NE 1/4 Section 34, T. 35 N., R. 1 W.), Dan Hunt Mountain portion of a California Spotted Owl Habitat Area (400 acres in Sections 3, 7, & 8, T. 33 N., R. 2 E.), Deadhorse Falls (Section 6, T. 28 N., R. 3 E.), Ishi Wilderness (Section 14, T. 25 N., R. 1 E.), Devils Kitchen (NE 1/4, Section 12, T. 25 N., R. 2 E.), Middle Fork Feather River (E 1/2, Section T. 20 N., R. 6 E.) Forbestown (N 1/2, Section 10, T. 19 N., R. 6 E.), and Lumpkin Ridge (SE 1/4 of SW 1/4 Section 36, T. 21 N., R. 7 E.).

12. Terminate all lapsed R&PP lease and small tract classifications. Revoke all unused waterpower withdrawals.

13. Thirty-seven parcels of land encompassing approximately 1260 acres are available for disposal via exchange or sale.

14. All public land interests not noted above in II A-H (1-11) are available for exchange.

15. The available commercial forest land would be managed as restricted. See Appendix G for acreage in this management category.

III. MANAGEMENT ACTIONS

A. Develop suitability reports for the final classification and potential inclusion of Battle, Butte, and Deer Creek in the National Wild and Scenic Rivers System.

B. Contact the State of California and County of Tehama regarding development of report(s) addressing the suitability of Mill Creek for inclusion in the National Wild and Scenic Rivers System. Offer BLM assistance as feasible in development of these reports.

C. Develop an agreement with The Nature Conservancy for the long-term administration of public lands adjacent to the Gray Davis/Dye Creek Ranch Preserve.

D. Develop ACEC management plans for Deer Creek and Forks of Butte Creek and, an integrated resource activity plan for Battle Creek which identifies specific land acquisition needs, required access, cooperative management opportunities, management facility locations, ACEC boundaries, permissible actions, and necessary monitoring. The results of reports addressing the suitability for inclusion in the National Wild and Scenic Rivers System will be included as appropriate.

E. Develop agreements and/or legislative amendments to modify the boundaries of the Shasta, Lassen and Plumas National Forests to include the parcels of public land noted above in II H (11).

F. Contact the State of California, County of Shasta and appropriate local organizations regarding acquisition or transfer of public lands noted above in II H (3-10).

G. Publish Federal Register notices regarding vehicle designations, mineral withdrawals, ACEC designations, and intent to develop a report(s) addressing the suitability of Battle, Butte and Deer Creeks for inclusion in the National Wild and Scenic Rivers System.

H. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange, sale, or administrative transfer.

I. Contact the State of California, Butte County, and other qualified organizations regarding the management of the Minnehaha ACEC. Develop an ACEC management plan in concert with interested agencies which addresses necessary stabilization actions and long-term public ownership.

J. Maintain a sustained yield harvest from the available commercial forest land.

MANAGEMENT AREA: ISHI

ALTERNATIVE: RESOURCE USE

MAP (in packet): MAP 3-9a)

I. RESOURCE CONDITION OBJECTIVES

A. Butte Creek

1. Maximize sustained yield of forest products within the area.
2. Enhance opportunities to explore and develop mineral production.
3. Maintain riparian habitat at present levels.
4. Maintain existing recreational facilities and enhance dispersed recreational opportunities especially in the lower reaches of canyons within the area.

B. Upper Ridge Nature Preserve

Same as NO ACTION ALTERNATIVE.

C. Minnehaha Mine

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

D. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of scattered Federal interests within the Ishi Management Area.
 2. Enhance the resource management efficiency and public service mission of local, state, and Federal agencies via transfer of specific public lands from BLM.
- ## **II. LAND USE ALLOCATIONS**
- ### **A. Butte Creek**
1. Classify as Roaded Natural.
 2. Motorized vehicle use limited to designated roads and trails.
 3. Consolidate and increase, if feasible, public ownership within the area.
 4. Area is open to mineral entry except within the eligible corridor noted above until final action of the U.S.

Congress regarding inclusion in the National Wild and Scenic Rivers System.

5. The available commercial forest land within Butte Creek canyon would be managed as restricted and for the enhancement of other resource values. All other available commercial forest land would be managed as intensive. See Appendix G for acreage assigned to the various management categories.

B. Upper Ridge Nature Preserve

1. Area is closed to motorized vehicles.
2. Offer for leasing with no surface occupancy.

C. Minnehaha Mine

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

D. Remainder of Management Area

1. Mill Creek

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

2. Transfer to Shasta County via Airport Grant or exchange fifteen acres of public land at Shingletown Airport in Section 24, T. 31 N., R. 1 E.

3. Transfer via exchange the Recreation and Public Purposes Act (R&PP), or cooperative agreement administrative responsibility of forty acres within the Tehama Wildlife Management Area.

4. Transfer via exchange, or R&PP to the State of California all surface and submerged public lands within the existing boundaries of the Lake Oroville State Recreation Area.

5. Transfer via exchange or R&PP to the Paradise Irrigation District twenty acres of public land on Little Butte Creek in Section 13, T. 23 N., R. 3 E.

6. Transfer via R&PP or exchange to Butte County or other qualified organization administration of the Forbestown Cemetery encompassing approximately 2.5 acres of public land in the NE 1/4 of Section 10, T. 19 N., R. 6 E.

7. Transfer jurisdiction of twelve parcels of public land encompassing approximately 1050 acres to the Shasta, Lassen, and Plumas National Forests. These parcels

include: Pit River (NE 1/4 of NW 1/4 and NW 1/4 of NE 1/4, Section 34, T. 35 N., R. 1 W.), Dan Hunt Mountain portion of a California Spotted Owl Habitat Area (400 acres in Section 3, 7 & 8, T. 33 N., R. 2 E.), Deadhorse Falls (Section 6, T. 28 N., R. 3 E.), ISHI Wilderness (Section 14, T. 25 N., R. 1 E.), Devils Kitchen (NE 1/4, Section 12, T. 25 N., R. 2 E.), Middle Fork Feather River (E 1/2, Section 4, T. 20 N., R. 6 E.), Forbestown (N 1/2, Section 10, T. 19 N., R. 6 E.), and Lumpkin Ridge (SE 1/4 of SW 1/4, Section 36, T. 21 N., R. 7 E.).

8. Terminate all lapsed R&PP leases and small tract classifications. Revoke all unused waterpower withdrawals and other mineral withdrawals.

9. Thirty-seven parcels of land encompassing approximately 1260 acres are available for disposal via exchange or sale.

10. All public lands interests not noted above in II A-D (1-7) are available for exchange.

III. MANAGEMENT ACTIONS

A. Butte Creek

Develop an integrated resource activity plan for Butte Creek which identifies: specific land acquisition needs, required access, forest land productivity, cooperative management opportunities, management facility locations, recreational use zones, and necessary resource conditions monitoring visitor use. The results of reports addressing the suitability for inclusion in the National Wild and Scenic Rivers System will be included as appropriate.

B. Upper Ridge Nature Preserve

Continue cooperative management agreement with Upper Ridge Wilderness Association.

C. Develop an agreement with The Nature Conservancy for the long-term administration of public lands adjacent to the Gray Davis/Dye Creek Ranch Preserve.

D. Contact the State of California and the counties of Shasta, Tehama and Butte regarding development of reports addressing the suitability of Battle, Mill, and Deer creeks for inclusion in the National Wild and Scenic Rivers System. Assist these agencies as feasible in development of these report(s).

E. Develop agreements and/or legislative amendments to modify the boundaries of the Shasta, Lassen,

and Plumas National Forests to include the parcels of public land noted above in II C (7).

F. Contact the State of California, counties of Shasta and Butte, City of Chico, and appropriate local organizations regarding acquisition or administrative transfer of public land parcels noted above in II C (2-6)

G. Contact the State of California, Butte County and other qualified organizations regarding the management of the Minnehaha ACEC. Develop an ACEC management plan in concert with the interested agencies which addresses necessary stabilization actions and long-term public ownership.

H. Publish Federal Register notice(s) regarding vehicle designations, ACEC designation and the intent to develop a report addressing the suitability of Butte Creek for inclusion in the National Wild and Scenic Rivers System.

I. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals and timber) on lands available for exchange, sale, or administrative transfer.

J. Maintain a sustained yield harvest from the available commercial forest land.

MANAGEMENT AREA: ISHI

RATIONALE FOR THE PROPOSED ACTION (RESOURCE USE WITH NATURAL VALUES CONSIDERATION)

MAP (in packet): Map 3-8b

Deer Creek has tremendous biological importance due to the diversity and sensitivity of many species, including Peregrine Falcon. The canyon contains nationally significant cultural resources in good to excellent condition. The creek also has regional recreational value along its length varying from hiking trails in Lassen Volcanic National Park to creekside campgrounds in the Lassen National Forest, to whitewater running within and below the National Forest. The Federal government has a long-term commitment to the unmodified majority of this important stream. Public ownership of this remaining segment of the creek above the Deer Creek Irrigation

Diversion Dam is necessary to ensure the long term protection and management continuity of the stream. Special management attention is necessary to protect the natural values, cultural resources, and adjoining wilderness (Ishi Wilderness) values, while providing opportunities for semi-primitive recreation. Therefore, designation as an ACEC is warranted.

Mill Creek has similar importance to Deer Creek; however, BLM has a very small presence along the stream. The Nature Conservancy is better suited to manage this stream due to the proximity of the Gray Davis-Dye Creek Ranch Preserve.

Butte Creek has regionally significant recreational values, coupled with local, mineral and hydroelectric importance. Consolidation of public land within this area will benefit the public for a very long time. The stream is considered eligible for inclusion in the National Wild and Scenic Rivers System. Competing public demands and proximity to a large population, however, warrant additional management attention and designation as an Outstanding Natural Area/ACEC. The existing mineral withdrawal coupled with a recreational mineral collection program under a permit system has worked well for the public and the natural resources. Expansion of this management strategy will enable BLM to protect sensitive resources while enhancing the recreational experience of most public land users.

Battle Creek has regional recreational, fisheries, and biological value. The most important segment of this creek corridor is below Manton Road (on South Fork). This segment contains the majority of chinook spawning habitat, generally adequate water flows for recreational pursuits, and nesting raptors including Bald Eagle. The Coleman National Fish Hatchery is also found along this segment. Public land consolidation along this important stretch of stream is warranted due to the aggregate of important values. Active management of this area com-

plements BLM proposed management of the Sacramento River (Bend) area. Continued BLM administration of public lands above Manton Road hinges on a conclusive determination if this portion of South Fork Battle Creek is suitable for inclusion in the National Wild and Scenic Rivers System. Until that determination is made, BLM should manage these lands in a manner which does not impair any outstandingly remarkable values.

The Baker cypress population is the largest and most vigorous known of this scattered species. Public retention and management as a Research Natural Area/ACEC is warranted given the limited distribution and current knowledge of the taxonomic/biological importance of this species.

The Minnehaha Mine represents a rare case of a natural hazard; i.e., erosion and water quality degradation due to past mining practices. Designation as an ACEC is warranted until the erosional hazard is abated. This short-term designation (BLM Manual 1613.22 (B) (3)) will expire upon satisfactory treatment of the existing problems and/or transfer to a state or local agency.

Transfer of specific public lands to the U.S. Forest Service, state, and local agencies recognizes the long term management commitments of these agencies and would simplify overall public land management efficiency.

The Tyme Maidu (Berry Creek) Indian tribe has a long-standing interest in establishing a reservation or other community development on one parcel of public land near Bean Creek. BLM has no authority or mechanism to transfer public lands directly to the tribe or to the fiduciary responsibility of the Bureau of Indian Affairs. The proposed action allows the tribe a period of five years to develop specific legislation in concert with their elected U.S. congressional representatives to establish tribal stewardship.

YOLLA BOLLY MANAGEMENT AREA

MANAGEMENT AREA: YOLLA BOLLY

ALTERNATIVE: NO ACTION

MAP (in packet): MAP 3-9b

I. RESOURCE CONDITION OBJECTIVES

A. Beegum Gorge

1. Maintain primitive recreation opportunities.
2. Maintain wildlife values.

B. Remainder of Management Area

1. Protect watershed condition and enhance wildlife habitat through prescribed burning.
2. Maintain an annual timber sale plan on approximately 3,400 acres of available commercial forest land.
3. Provide domestic livestock forage for 371 Animal Unit Months from 6,261 acres of public land.
4. Increase available livestock forage via prescribed burning.
5. Maintain the quality and quantity of riparian vegetation of existing riparian zones along Cold Fork, Cottonwood, and Red Bank Creeks.

II. LAND USE ALLOCATION

A. Beegum Gorge

1. Managed as VRM Class II.
2. Managed as Semi-Primitive Non-Motorized.

B. Remainder of Management Area

1. All public lands within the Tehama County portion of the management area are open to motorized vehicle use. Motorized vehicle use on public lands within the Shasta County portion of the management area is limited to designated roads and trails.

2. 640 acres of public land (Section 18, T. 26 N., R. 8 W.) adjoining the Yolla Bolly - Middle Eel Wilderness Area are classified as a Wilderness Study Area. This section of land has been recommended as unsuitable for inclusion in the National Wilderness Preservation System. Pending final action by the U.S. Congress, these public lands will be managed in a manner which will not impair any potential wilderness values.

3. Approximately 6,500 acres of public land are located within the Sunflower Coordinated Resource Plan area. An additional 10,200 acres of public land are located within the Thomes Creek Coordinated Resource Plan area. Prescribed burning within these areas is under multi-party agreements.

4. Approximately 4,200 acres of public land are withdrawn from the surface land laws as part of the Yolla Bolly National Land and Wildlife Management Area. Located completely within the Thomes Creek Coordinated Resource Plan area, this withdrawal was recommended for revocation in 1982.

5. 360 acres of public land within Sections 4 and 9, T. 29 N., R. 9 W. are withdrawn as part of the Arbuckle Mountain Project.

6. Eight parcels of public land encompassing approximately 520 acres are available for disposal via sale.

7. All public land interests not noted above in II A-B (1-6) may be disposed via exchange on a case-by-case basis for higher public values elsewhere.

8. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Beegum Creek

1. Continue prescribed burning in cooperation with the U.S. Forest Service and the California Department of Forestry and Fire Protection.

B. Remainder of Management Area

1. Continue annual monitoring of the condition of the Wilderness Study Area.

2. Continue implementing the Sunflower Coordinated Resource Plan.

3. Amend or terminate the inactive Thomes Creek Coordinated Resource Plan.

4. Revoke the withdrawal for the Yolla Bolly National Land and Wildlife Management Area.

5. Continue the withdrawal for the Arbuckle Mountain Project subject to the review and recommendations of the Federal Energy Regulatory Commission.

6. Conduct annual residual mulch monitoring of grazing usage and maintain livestock enclosures.

7. Maintain a sustained yield harvest from the available commercial forest land.

MANAGEMENT AREA: YOLLA BOLLY

ALTERNATIVE: ADMINISTRATIVE ADJUSTMENT
(proposed action)

MAP (in packet): MAP 3-10a

I. RESOURCE CONDITION OBJECTIVES

A. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of BLM administered interests within the management area.

B. Enhance resource management efficiency and the public service mission of Federal agencies via transfer of jurisdiction of specific public lands from BLM.

II. LAND USE ALLOCATIONS

A. Transfer jurisdiction of twelve parcels of public land encompassing approximately 8,000 acres and an additional 1,800 of Federal mineral estate to the Trinity National Forest. These parcels include: Bluford Trail (E 1/2, Section 20, T. 30 N., R. 9 W.) Beegum Gorge, Beegum Peak eyrie (S 1/2 Section 19, Sections 20-22, W 1/2 Section 26, Sections 27-34, T. 29 N., R. 9 W. and Section 4, T. 28 N., R. 9 W.), Tedoc Mountain botanical

area (NW 1/4, Section 28, T. 28 N., R. 9 W.), Wells Creek Special Interest Area (SW 1/4 Section 33, T. 28 N., R. 9 W.), Brushy Ridge (N 1/2, Section 24, T. 27 N., R. 9 W.), Pettyjohn Road access (S 1/4, Section 20, S 1/2 of NW 1/4 and S 1/2 Section 27 and SW 1/4 Section 26, T. 27 N., R. 8 W.), Maple Creek (Sections 34 & 35, T. 27 N., R. 8 W.) and South Fork Cottonwood Creek (N 1/2 Section 10 and Section 18, T. 26 N., R. 8 W.)

B. Eight parcels of public land encompassing approximately 520 acres are available for disposal via exchange or sale.

C. All public land interests not noted above in II A-B are available for exchange.

D. The majority of available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Develop agreement and/or legislative amendment to modify the boundary of the Trinity National Forest to include the public land noted above in II A.

B. Contact the State of California and the counties of Shasta and Tehama regarding development of reports addressing the suitability of Middle Fork Cottonwood Creek and South Fork Cottonwood Creek for inclusion in the National Wild and Scenic Rivers System. Assist these agencies as feasible in development of these reports.

C. Revoke withdrawals for the Yolla Bolly National Cooperative Land and Wildlife Management Area and the Arbuckle Mountain Project.

D. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange or sale.

E. Publish Federal Register notice regarding withdrawal revocation.

MANAGEMENT AREA: YOLLA BOLLY

ALTERNATIVE: ENHANCEMENT OF NATURAL AND CULTURAL VALUES

MAP (in packet): MAP 3-10b

I. RESOURCE CONDITION OBJECTIVES

A. Middle Fork Cottonwood/Duncan Creeks

1. Improve the condition of the deer winter range habitat.
2. Enhance semi-primitive recreation opportunities, especially hunting, hiking, fishing, backpacking, and camping.
3. Maintain good watershed conditions including yield and quality of surface water.
4. Improve forage for livestock.

B. Beegum Gorge

1. Protect the scenic quality of the canyon.
2. Maintain the native fisheries of Beegum Creek.
3. Maintain semi-primitive recreation opportunities especially hiking and fishing.
4. Protect raptors including peregrine falcon within the area.
5. Maintain the quality of existing wildlife habitat along the streamside zone.
6. Maintain watershed conditions and deer winter range habitat conditions through prescribed burning.

C. Sunflower Flat

1. Improve the condition of the deer winter range habitat.
2. Maintain the yield and quality of water within the area.
3. Improve forage for livestock.
4. Provide semi-primitive recreation opportunities.

D. Remainder of the Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of public land interests within the Yolla Bolly Management Area.
2. Enhance resource management efficiency and the public service mission of Federal agencies via transfer of jurisdiction of specific public lands from BLM.

II. LAND USE ALLOCATIONS

A. Middle Fork Cottonwood/Duncan Creeks

1. Manage as VRM Class III.
2. Manage as Semi-Primitive Motorized.
3. Motorized vehicle use is limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd.
4. Acquire available unimproved privately owned lands within the area.
5. Acquire title or develop a cooperative management agreement with the State of California for Section 16, T. 30 N., R. 8 W.
6. Offer for mineral leasing with no surface-disturbing actions permitted between November 15 and April 15.

B. Beegum Gorge

1. Designate as an Outstanding Natural Area/ACEC.
2. Manage as VRM Class II.
3. Manage as Semi-Primitive Motorized.
4. Withdraw the Wild and Scenic Rivers study corridor from mineral entry.
5. Offer for mineral leasing with no surface occupancy.
6. Mineral material disposals are not allowed within the Wild and Scenic Rivers study corridor unless such actions are necessary to enhance fisheries habitat.
7. Vehicles are limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd, physical condition of the roads, and human safety.

8. Acquire unimproved privately owned lands to protect the visual quality of the canyon, protect raptors within the area, or provide public access.

C. Sunflower Flat

1. Manage as VRM Class III.
2. Manage as Semi-Primitive Motorized.
3. Vehicles are limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd.
4. Offer for mineral leasing with no surface disturbing actions permitted between November 15 and April 15.
5. Acquire unimproved privately owned lands or develop cooperative management agreements to facilitate improving the condition of the deer winter range habitats.

D. Remainder of the Management Area

1. Transfer jurisdiction of ten parcels of public land encompassing approximately 3,100 acres to the Trinity National Forest. These parcels include: Tedoc Mountain botanical area (NW 1/4 Section 28, T. 28 N., R. 9 W.), Brushy Ridge (N 1/2 Section 24, T. 27 N., R. 9 W.), Pettyjohn Road access (S 1/4 Section 20, S 1/2 of NW 1/4 and S 1/2 Section 27, and SW 1/4 Section 26, T. 27 N., R. 8 W.) and South Fork Cottonwood Creek (N 1/2 Section 10 and Section 18, T. 26 N., R. 8 W.)
2. Eight parcels of public land encompassing approximately 520 acres are available for disposal via exchange or sale.
3. All public land interests not noted above in II A-D (1-2) are available for exchange.

III. MANAGEMENT ACTIONS

- A. Develop agreement and/or legislative amendment to modify the boundary of the Trinity National Forest to include the public land noted above in II D (1).
- B. Develop suitability reports for the final classification and potential inclusion of Middle Fork Cottonwood Creek and Beegum Creek in the National Wild and Scenic Rivers System.
- C. Contact the State of California and County of Tehama regarding development of report(s) addressing

the suitability of South Fork Cottonwood Creek for inclusion in the National Wild and Scenic Rivers System. Offer BLM assistance as feasible in development of these reports.

D. Develop an ACEC management plan for Beegum Gorge which identifies specific land acquisition needs, required public access, sensitive resource locations, excluded use area, prescribed burning plots, public use areas, and appropriate resource monitoring needs, e.g. fisheries, peregrine, visitor use, and visual quality. Incorporate the results of the suitability report(s) on Beegum Creek as necessary into this activity plan.

E. Develop integrated resource activity plans for Sunflower Flat and Middle Fork Cottonwood/Duncan Creeks areas to identify specific land acquisition needs, roads necessary for public and administrative access, and sensitive habitat areas which need permanent or intermittent protection. Incorporate the results of the suitability report(s) on Middle Fork Cottonwood Creek as necessary into this activity plan.

F. Revoke withdrawals for the Yolla Bolly National Cooperative Land and Wildlife Management Area and the Arbuckle Mountain Project.

G. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange or sale.

H. Publish Federal Register notices regarding intent to conduct suitability reports, designate ACEC, develop an ACEC management plan, develop integrated resource activity plans, mineral withdrawals, withdrawal revocations, and vehicle designations.

MANAGEMENT AREA: YOLLA BOLLY

ALTERNATIVE: RESOURCE USE WITH NATURAL VALUES CONSIDERATION

MAP (in packet): MAP 3-11a

I. RESOURCE CONDITION OBJECTIVES

A. Beegum Gorge

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

B. Middle Fork Cottonwood Creek

1. Enhance semi-primitive recreation opportunities.
2. Improve the condition of the deer winter range habitat.
3. Maintain watershed conditions including yield and quality of surface water.
4. Improve forage for livestock.

C. Tedoc Mountain

1. Protect the botanical values of Tedoc Mountain in cooperation with the Trinity National Forest.
2. Enhance the supply of forest products on available commercial forest lands.

D. Sunflower Flat - Elkhorn Peak

1. Maintain the sustained yield of forest products on available commercial forest lands.
2. Enhance semi-primitive recreation opportunities.
3. Improve forage for livestock.
4. Maintain the condition of the deer winter range habitat.

E. Remainder of the Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of public land interests within the Yolla Bolly Management Area.
2. Enhance resource management efficiency and the public service mission of local, state, and Federal agencies via transfer of jurisdiction of specific lands from BLM.

II. LAND USE ALLOCATIONS

A. Beegum Gorge

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE.

B. Middle Fork Cottonwood Creek

1. Manage as VRM Class III.
2. Manage as Semi-Primitive Motorized.

3. Motorized vehicle use is limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd.

4. Acquire available unimproved privately owned lands.

C. Tedoc Mountain

1. Withdraw the NW 1/4 of Section 28, T. 28 N., R. 9 W, from mineral entry and offer for mineral leasing with no surface occupancy.

2. Acquire available unimproved privately owned lands within the area.

3. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

D. Sunflower Flat-Elkhorn Peak

1. Manage as VRM Class III.
2. Manage as Semi-Primitive Motorized.
3. Vehicle use is limited to designated roads and trails which may be closed between November 15 and April 15 to protect the wintering deer herd.
4. Acquire available unimproved privately owned lands.
5. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

E. Remainder of Management Area

1. Transfer jurisdiction of Section 18, T. 26 N., R. 8 W. to the Trinity National Forest.
2. Eight parcels of public land encompassing approximately 520 acres are available for disposal via exchange or sale.
3. All public land interests not noted above in II A-E (1-2) are available for exchange.
4. The majority of the available commercial forest land would be managed as restricted. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Develop agreement and/or legislative amendment to modify the boundary of the Trinity National Forest to include Section 18, T. 26 N., R. 8 W.

B. Develop suitability reports for the final classification and potential Inclusion of Beegum Creek, Middle Fork Cottonwood Creek and South Fork Cottonwood Creek in the National Wild and Scenic Rivers System.

C. Beegum Gorge

Same as ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE (III D).

D. Develop an agreement with the Trinity National Forest for the cooperative management of the Tedoc Mountain botanical area.

E. Develop integrated activity plans for the Middle Fork Cottonwood Creek and Sunflower Flat/Elkhorn Peak areas which incorporate the conclusions of the Wild and Scenic Rivers suitability reports, identify specific lands or access acquisition needs, state monitoring standards for vegetation management, identify the desired plant community(s), roads necessary for public and administrative use, and sensitive habitat areas.

F. Revoke areas and withdrawals for the Yolla Bolly National Cooperative Land and Wildlife Management Area and the Arbuckle Mountain Project.

G. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals and timber) on lands available for exchange or sale.

H. Publish Federal Register notices regarding intent to conduct suitability reports, designate ACEC, develop an ACEC management plan, develop integrated resource activity plans, mineral withdrawals, withdrawal revocations, and vehicle designations.

I. Maintain a sustained yield harvest from the available commercial forest land.

MANAGEMENT AREA: YOLLA BOLLY

ALTERNATIVE: RESOURCE USE

MAP (in packet): MAP 3-11b

I. RESOURCE CONDITION OBJECTIVES

A. Duncan Creek, Tedoc Mountain and Elkhorn Peak

1. Enhance the sustained yield of forest products from available commercial forest lands.
2. Improve opportunities to explore and develop mineral commodity production.
3. Maintain and improve, if feasible, forage for livestock especially in the non-forested portions of Duncan Creek and Elkhorn Peak areas.

B. Remainder of Management Area

1. Enhance the ability to acquire high value resource lands within the Redding Resource Area by disposal of public land interests within the Yolla Bolly management area.
2. Enhance resource management efficiency and the public service mission of Federal agencies via transfer of jurisdiction of specific public lands from BLM.

II. LAND USE ALLOCATIONS

A. Duncan Creek, Tedoc Mountain and Elkhorn Peak

1. Vehicles are limited to designated roads and trails.
2. Acquire unimproved private and state lands to enhance manageability.
3. The majority of the available commercial forest land would be managed as intensive. See Appendix G for acreage assigned to the various management categories.

B. Remainder of Management Area

1. Transfer jurisdiction of three parcels of public land encompassing approximately 5,360 acres and an additional 640 acres of Federal mineral estate to the Trinity National Forest. These parcels include: Bluford Trail (E 1/2 Section 20, T. 30 N., R. 9 W., Beegum Gorge (Sec-

tions 19-22, and 28-33, T. 29 N., R. 9 W., and Section 18, T. 26 N., R. 8 W.).

2. Eight parcels of public land and encompassing approximately 520 acres are available for disposal via exchange or sale.

3. All public land interests not noted above in II A, B (1-2) are available for exchange.

4. The majority of the available commercial forest land would be managed as intensive. See Appendix G for acreage assigned to the various management categories.

III. MANAGEMENT ACTIONS

A. Develop agreement and/or legislative amendment to modify the boundary of the Trinity National Forest to include the public land noted above in II B(1).

B. Contact the State of California and the counties of Shasta and Tehama regarding development of reports addressing the suitability of Middle Fork Cottonwood Creek and South Fork Cottonwood Creek for inclusion in the National Wild and Scenic Rivers System. Assist these agencies as feasible in development of these reports.

C. Revoke withdrawals for the Yolla Bolly National Cooperative Land and Wildlife Management Area and the Arbuckle Mountain Project.

D. Conduct resource inventories (archaeological, special status species, hazardous materials, minerals, and timber) on lands available for exchange or sale.

E. Publish Federal Register notice regarding withdrawal revocation.

F. Maintain a sustained yield harvest from the available commercial forest land.

MANAGEMENT AREA: YOLLA BOLLY

RATIONALE FOR THE PROPOSED ACTION (ADMINISTRATIVE ADJUSTMENT)

MAP (in packet): MAP 3-10A

The majority of public lands within this management area have limited public values due to relatively unimportant resources, low recreational demand, and generally poor access. Exceptions are parcels of public land adjacent to the boundary of the Trinity National Forest, most notably Beegum Gorge near Platina. Other exceptions include parcels adjacent to the Yolla Bolly Wilderness Area, Tedoc Mountain Special (Botanical) Interest Area, and several parcels which provide physical access to the National Forest. These parcels lend themselves to long term stewardship by the U.S. Forest Service with a field office (Ranger District Office) near Platina. The very limited amount of available commercial forest land and suitable rangeland are best managed in concert with adjoining and surrounding private landowners.

Revocation of withdrawals for the Arbuckle Mountain Project and the Yolla Bolly National Cooperative Land and Wildlife Management Area are necessary to make these public lands available for disposal via exchange.

Until BLM or other agencies address the suitability for including portions of South Fork and Middle Fork Cottonwood Creeks in the National Wild and Scenic Rivers System, public lands within the study corridor must be maintained in public ownership and managed during the interim period to protect any outstandingly remarkable values associated with the corridors. If BLM determines that these corridors are unsuitable for inclusion, public land interests should be disposed via exchange in conformance with the philosophy of the proposed action, i.e., ADMINISTRATIVE ADJUSTMENT.

The "no surface occupancy" restriction on mineral leasing, and the locatable mineral withdrawals on the specified lands, are warranted to protect the natural and cultural values identified in certain key areas of this management area. Lesser restrictions, such as those contained in the 43 CFR 3809 Regulations and standard mineral lease terms and conditions, were considered and deemed inadequate to protect these values.

TABLE 3-1
PROPOSED ACTION SUMMARY
MANAGEMENT ALTERNATIVES

MANAGEMENT AREA	NO ACTION	ADMINISTRATIVE ADJUSTMENT	ENHANCEMENT OF NATURAL VALUES	RESOURCE USE WITH NATURAL VALUES CONSIDERATION	RESOURCE USE
SCOTT VALLEY		X			
KLAMATH				X	
TRINITY				X	
SHASTA				X	
SACRAMENTO RIVER			X		
ISHI				X	
YOLLA BOLLY		X			

TABLE

SUMMARY/COMPARISON OF SIGNIFICANT IMPACT

Impact Topic	No Action Alternative	Administrative Adjustment Alternative	Enhancement of Natural and Cultural Values Alternative
Anadromous Salmonid Habitat	BLM currently administers 44 miles of the identified key habitat areas. BLM proposes to acquire 32 additional miles and would consider the exchange of 4 miles.	Approximately 37.5 miles of the key habitat areas would be acquired and 8 miles would be available for exchange.	Approximately 108.5 miles of the key habitat areas would be acquired by BLM or protected under other Federal jurisdiction.
Archaeological Resources	Approximately 125 to 500 sites would be acquired and 75 to 350 sites exchanged to the private sector. Moderate adverse impacts at 10 to 50 sites would be expected.	Approximately 50 sites would be acquired and 100 to 700 sites exchanged to the private sector. Moderate adverse impacts at 12 to 60 sites would be expected.	Approximately 300 to 600 sites would be acquired and 50 to 250 sites exchanged to the private sector, or transferred to conservation groups. Moderate adverse impacts at 7 to 35 sites would be expected.
Deer Winter Range	Currently BLM administers 47,928 acres of deer winter range for three separate deer herds. BLM would consider the exchange of up to 25,000 acres.	Approximately 25,000 acres of deer winter range would be exchanged to the private sector resulting in a 18 to 23 percent reduction in deer population.	Approximately 38,400 acres of deer winter range would be acquired by BLM for the Weaverville deer herd resulting in a 15 to 25 percent increase in population. Approximately 2,800 acres would be exchanged to the private sector with no impacts anticipated.
Scenic Quality	Scenic quality would be safeguarded within the Trinity River Corridor, Sacramento and Upper Klamath rivers, Beegum Gorge, Muletown Road, Forks of Butte Creek, and the Whiskeytown Unit of the National Recreation Area (WNRA).	Scenic quality would be maintained on BLM lands along the Klamath, Shasta, Trinity and Sacramento rivers; and Forks of Butte Creek and WNRA.	Scenic quality would be protected or enhanced throughout most of the Resource Area via VRM I, VRM II and VRM III designations.
Slender Orcutt Grass	Six sites and 7.6 acres of habitat would be protected under BLM administration.	Six sites and 7.6 acres of habitat would be exchanged to the private sector. Conservation easements would eliminate impacts to the transferred sites and habitat.	Nine sites and 113.8 acres of habitat would be protected under BLM administration or cooperative agreements.
Spotted Owl	Moderate degradation to 4,798 acres of key area habitat would be expected and 1,288 acres would be protected.	Moderate degradation to 4,079 acres of key area habitat would be expected and 2,007 acres would be protected.	Approximately 6,086 acres of key area habitat would be protected.
Waterfowl/Wetland Habitat	Approximately 16,000 acres of privately owned wetlands would continue to be degraded. BLM would expect to enhance 80 acres of BLM administered wetlands.	Impacts would be the same as the No Action Alternative.	BLM would acquire 16,000 acres of wetlands in the Shasta Valley (including Shasta Grass Lake) resulting in a 15 to 25 percent increase in waterfowl production. Also, 200 to 300 acres would be acquired within the Sacramento River Management Area resulting in a 60 to 80 percent increase in waterfowl population.

3-2

TOPICS BY LAND-USE MANAGEMENT ALTERNATIVE

Resource Use With Natural Values Consideration

Approximately 87.5 miles of the key habitat areas would be acquired and 5 miles would be available for exchange.

Approximately 200 to 400 sites would be acquired and 50 to 150 sites exchanged to the private sector or transferred to conservation groups. Moderate adverse impacts at 9 to 45 sites would be expected.

Impacts would be the same as the Enhancement of Natural and Cultural Values Alternative.

Scenic quality would be maintained on BLM lands along the Trinity, Upper Klamath and Sacramento rivers; Shasta/Klamath River Canyon; WNRA, and Shasta Dam Scenic Drive. Scenic quality would be enhanced within Deer Creek.

Impacts would be the same as the Enhancement of Natural and Cultural Values Alternative.

Slight degradation to 4,079 acres of key area habitat would be expected and 2,007 acres would be protected.

Impacts would be similar to the Enhancement of Natural and Cultural Values Alternative, although the Shasta Grass Lake (1,000 acres) would not be acquired.

Resource Use Alternative

Approximately 31 miles of the key habitat areas would be acquired and 6 miles would be available for exchange.

Approximately 150 to 350 sites would be acquired and 50 to 275 sites exchanged to the private sector or transferred to conservation groups. Moderate adverse impacts at 8 to 40 sites would be expected, and significant degradation or destruction to over 15 sites would be expected.

Impacts would be the same as the No Action Alternative.

Scenic quality would be maintained along the Trinity River Corridor and Sacramento River; elsewhere, scenic quality would be degraded.

Impacts would be the same as the Enhancement of Natural and Cultural Values Alternative.

Moderate degradation to 4,079 acres of key area habitat would be expected and 2,007 acres would be protected.

Approximately 16,000 acres of privately owned wetlands would continue to be degraded. Approximately 200 to 300 acres of wetlands within the Sacramento River Management Area would be acquired resulting in a 60 to 80 percent increase in waterfowl population.

Proposed Action Alternative

Impacts would be identical to those within the Resource Use With Natural Values Consideration Alternative.

Approximately 250 to 1,000 sites would be acquired and 150 to 700 sites exchanged to the private sector or transferred to conservation groups. Moderate adverse impacts at 9 to 45 sites would be expected.

Impacts would be the same as the Enhancement of Natural and Cultural Values Alternative.

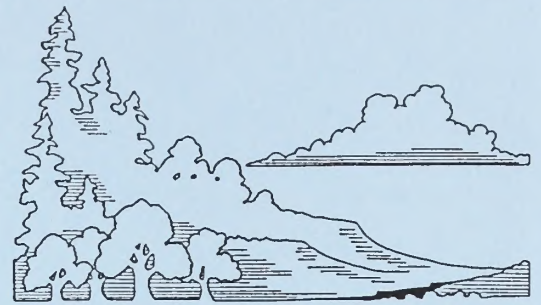
Scenic quality would be maintained or enhanced throughout most of the Resource Area.

Impacts would be the same as the Enhancement of Natural and Cultural Values Alternative.

Slight degradation to 4,079 acres of key area habitat would be expected and 2,007 acres would be protected.

Impacts would be the same as the Enhancement of Natural and Cultural Values Alternative.

CHAPTER 4 - ENVIRONMENTAL CONSEQUENCES



CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

Chapter 4 describes the expected physical, biological and social consequences of implementing the land-use management alternatives described in Chapter 3. Only those resources, or resource use opportunities, that have been identified as having significant impacts are topics addressed within this chapter. The rationale for discounting additional impact topics from intensive analysis is described in Chapter 1.

Impacts are assessed on a Resource Area wide basis as if each of the five generic land-use management alternatives was fully implemented within all seven management areas; the exception being the Resource Use Alternative which was not considered in the Sacramento River Management Area. For example, impacts identified for the Administrative Adjustment Alternative include the sum of impacts that would be expected to occur within the Scott Valley, Klamath, Trinity, Shasta, Sacramento River, Ishi and Yolla Bolly management areas through implementation of that land-use management alternative in each management area. Furthermore, impacts identified for the Proposed Action Alternative include the impacts that would be expected to occur within the seven management areas through implementation of the proposed mix of preferred land-use management alternatives shown in Table 3-1.

Mitigating measures designed to avoid or reduce environmental impacts were incorporated into the various alternative management actions. Many of these mitigation measures are noted in Management Guidance Common To All Alternatives and in the Land Use Allocations (for each alternative within each management area) sections of Chapter 3 of this RMP. Impacts identified within this chapter are considered unavoidable net effects after implementation of pertinent mitigation measures.

Chapter 4 is organized to present the analysis methodologies and the predicted environmental consequences in a logical manner to the reader. First, the assumptions serving as the basis of analysis are described. Second, the impact topic descriptions and

the method used to estimate the consequences of specific land-use management alternatives are explained. Finally, the consequences (impacts) of implementing the specific land-use management alternatives are explained and compared.

ASSUMPTIONS FOR THE ANALYSIS

Environmental consequences, or impacts, were assessed by the interdisciplinary team identified in the List Of Preparers following Chapter 5. To aid in the assessments, it was necessary to assume that certain events would reasonably occur. These assumptions serve as a foundation for assessment work and provide a basis for predicting cumulative impacts. Assumptions were divided into two categories: General Assumptions and Reasonably Foreseeable Development Assumptions. The former set of assumptions are constant over the planning horizon irrespective of the land-use management alternative assessed. The latter set of assumptions provided the resource professionals performing the impact assessments, information regarding the future trend of impacting mechanisms associated with public land management.

This section will first describe the General Assumptions and then will describe the Reasonably Foreseeable Development regarding six significant impacting mechanisms: Community Development and Expansion, Forest Management, Leasable Mineral Development, Locatable Mineral Development, Range Management for Domestic Grazing, and Recreational Use Development.

General Assumptions For Analysis

It is assumed for analysis purposes that:

The AFFECTED ENVIRONMENT serves as a baseline for comparison in assessing all land-use management alternatives.

Actions for each land-use management alternative will be in compliance with all valid existing rights, Federal regulations, and BLM policies. Refer to

Chapter 3 (Management Guidance Common to All Alternatives) for an in depth discussion of these constraints.

Implementation of the approved Resource Management Plan (RMP) will begin 30 days after the Final RMP and record of decision are signed by the BLM California State Director. All implementation actions will subsequently conform to the specific RMP decisions.

The life span of the approved RMP is approximately 15 years. Short-term impacts occur within the 5 year period immediately following implementation; long-term impacts occur after 5 years following implementation.

Each land-use management alternative assessed is feasible with adequate finances and personnel available to implement the decisions.

Environmental consequences are defined as the net unavoidable effects, changes, impacts, etc. to a resource or resource use opportunity after mitigation.

Any net unavoidable negative impacts will be continually evaluated during the life of the plan. Where necessary, adjustments in specific actions will be made to minimize consequential effects based on RMP monitoring.

In areas identified for acquisition, BLM will be able to acquire stewardship responsibility for all available unimproved lands. In areas identified for disposal, all public lands will transfer to private ownership unless specifically stated otherwise.

Reasonably Foreseeable Development

Land Use and Community Development

BACKGROUND

The Redding Resource Area includes a resident population of more than 400,000 people. Populations vary from approximately 14,000 in Trinity County to 173,000 in Butte County. The majority of the regional population live in or near the Chico-Paradise-Oroville area, the Redding-Anderson area, the Sacramento River corridor of Corning-Red Bluff-Cottonwood, Weaverville, Yreka, and Weed-Mt. Shasta areas. Areas of highest sustained and predicted growth include Redding and Chico which are projected to sustain a 3% - 5% annual population growth during the life of the RMP. Of these two cities, only Redding has significant amounts of BLM

administered public land within or adjoining its sphere of influence. Towns with a more modest growth projection include Mt. Shasta, Corning, Oroville, Weaverville, Yreka, Paradise and Anderson. Of these communities, significant amounts of public land are found within or adjoining the sphere of influence of Paradise and Weaverville.

PROJECTIONS

Land uses within the Redding Resource Area reflect the economic focus of the regional population. The services, retail trade, governmental, manufacturing and financial industries of the region are concentrated in or near the towns and cities of the Resource Area. The vast majority of the land mass is uninhabited or unimproved lands dominated by public administration in the upland or mountainous regions and private ownership within lower elevations. Public land ownership patterns are not expected to change significantly over the life of the RMP. The U.S. Forest Service is expected to consolidate public land ownership within the critical areas of their forest boundaries. The U.S. Fish and Wildlife Service, and the California Department of Fish and Game, will likely acquire title or conservation easements along segments of the Sacramento River below Red Bluff. Privately funded conservation organizations will aid this effort.

Land uses on private lands outside the towns and cities of the Resource Area will continue to be dominated by limited development or extensive forms of industry. Large acreage ownerships will continue to dominate within the timber, ranching and agricultural industries. More intensive land uses will concentrate around the cities and towns, as mentioned previously. However, an increase in intensive uses is also expected along the Sacramento River with the conversion of range and agricultural lands to rural residential, suburban residential, and planned communities.

Under all land-use management alternatives, including the Proposed Action, land uses will remain non-intensive on the vast majority of public lands transferred to the private section via exchange or, in a few cases, direct sale. Public lands transferred to the private sector will be dominated by county zoning designations for rangeland, natural habitat (40 to 80 acre minimum), timber production, agriculture and rural residential (5 to 20 acre minimum). Notable exceptions will include former public lands in or adjoining the Redding, Weaverville and possibly, Hayfork spheres of influence. County and city zoning designations in these areas will mainly include rural residential (2 to 5 acre minimum), suburban

residential, public facilities (transfers to local government for public uses), and greenway.

Development to full approved land-use capability will be constrained on the simple majority of public land available for transfer to the private sector due to degree of slope, septic tank limitations and wildfire suppression concerns. These concerns and a limited demand for real estate will result in the actual approved development over the next fifteen years of between 10% and 30% of public land transferred to the private sector in or near Hayfork and Weaverville under any land-use management alternative.

Due to the higher demand for rural and suburban residences near Redding and the limited ability of local government to acquire and manage public lands under the Recreation and Public Purposes Act for specific public purposes, transfers of public land via exchange to the private sector are more likely to occur. Of public land made available for transfer to local government or the private sector under any land-use management alternative, in or near the sphere of influence of Redding, between 25% and 60% will be developed in accordance with currently approved adjoining zoning designations.

The following discussion provides estimates of public lands which will reasonably be transferred to local agencies and the private sector (mainly by exchange) under each land-use management alternative including the Proposed Action. The discussion also includes estimates of public land acreage which will be subsequently developed as intensive land uses, i.e., rural residential (5 acre maximum), suburban residential, commercial, or certain public facilities (schools, landfills, etc.). All estimates consist of ranges to occur over the fifteen year span of the RMP.

NO ACTION ALTERNATIVE

Of public lands presently available for disposal via exchange or sale to the private sector, between 10,000 and 50,000 acres would actually be transferred. Of this range, 500 to 2,500 acres would be zoned and subsequently developed for intensive land uses mainly around Redding, with limited private development near Hayfork and Weaverville. Between 1,000 and 5,000 additional acres of public land would be transferred to agencies for development to benefit local communities.

ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

Of public lands available for disposal via exchange to the private sector, between 30,000 and 110,000 acres would actually be transferred. Of this range, 1,000 to 3,000 acres would be zoned and subsequently developed for intensive land uses mainly around Redding with some private development near Weaverville and Hayfork. Between 2,000 and 6,000 additional acres of public land would be transferred to agencies for development to benefit local communities including Native American Indians.

ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE

Of public lands available for disposal via exchange to the private sector, between 7,000 and 35,000 acres would actually be transferred. Of this range 500 to 1,000 acres would be zoned and subsequently developed for intensive land uses mainly around Weaverville, Redding, and Hayfork. Between 400 and 700 additional acres of public land would be transferred to agencies for development to benefit local communities.

RESOURCE USE WITH NATURAL VALUES CONSIDERATION ALTERNATIVE

Of public lands available for disposal via exchange to the private sector, between 9,000 and 45,000 acres would actually be transferred. Of this range, 1,000 to 3,000 acres would be zoned and subsequently developed for intensive land uses mainly around Redding with some private development near Weaverville and Hayfork. Between 1,800 and 3,000 additional acres of public land would be transferred to agencies for development to benefit local communities including Native American Indians.

RESOURCE USE ALTERNATIVE

Of public lands available for disposal via exchange to the private sector, between 20,000 and 55,000 acres would actually be transferred. Of this range, 1,000 to 3,000 acres would be zoned and subsequently developed for intensive land uses, mainly around Redding with some private development near Weaverville and Hayfork. Between 700 and 2,000 additional acres of public land would be transferred to agencies for development to benefit local communities.

PROPOSED ACTION

Of public lands available for disposal via exchange to the private sector, between 20,000 and 70,000 acres would actually be transferred. Of this range, 1,000 to 3,000 acres would be zoned and subsequently developed for intensive land uses mainly around Redding with some private development near Weaverville and Hayfork. Between 1,800 and 3,000 additional acres of public land would be transferred to agencies for development to benefit local communities including Native American Indians.

Forest Management

BACKGROUND

During much of the history of northern California, the timber industry was given a great deal of freedom to manage their lands and conduct timber harvesting using methods that they felt were either best for the resources, or which met the most pressing need at the time. Entire communities grew up around mills and a certain degree of stability was created based on the forest products industry and economy.

One of the goals of the industrial forest land owners and to a lesser degree the Government agencies was to "regulate" the forest. Regulation of the forest required replacing the old-growth forests with fast growing healthy stands of desirable commercial species that could be harvested on a predictable or regulated schedule. As the areas of old-growth trees declined and as the population of northern California became more urban and less dependent directly on the timber industry, conflicts began to arise. The conflicts primarily centered around the preservation of the remaining old-growth trees, the animal and plant species that require old growth forest habitat, clear cutting and the use of herbicides. The conflicts have led to more restrictive regulations on logging practices and the potential for highly restrictive laws prohibiting or severely limiting clear cutting, harvesting of old-growth and the use of herbicides.

Some timber and paper companies are experimenting with alternate sources of wood fiber and also are improving in the utilization of existing sources. Research is being conducted with eucalyptus, poplar and cottonwood plantations as a non-traditional source of fiber for paper and extruded dimensional lumber. Other companies are beginning to utilize smaller logs to produce laminated dimensional lumber. These new sources and

processes may offset a small part of the loss of harvestable volume, but the overall result of increased regulation will be a 25-50% reduction in annual harvests in northern California and a potential increase of up to 50% in the cost of processed wood products within the next 15 years.

Within the Redding Resource Area boundary there is approximately 1,700,000 acres of private land that is zoned for timber production (TPZ) and approximately 1,600,000 acres of Federal and State land that is managed primarily for timber production. In 1988, from the same geographic region, there was approximately 1,269 million board feet (1,269 MMBF) harvested. The BLM manages approximately 39,150 acres of land for the production of forest products and harvests approximately 5 million board feet (5 MMBF) of timber per year which is 1.1 % of the acreage and 0.4 % of the harvested volume. Both figures are considered to be regionally insignificant.

Generally the U.S. Forest Service and private industry remove large volumes of timber, up to 20 million board feet, on each timber sale. The BLM having smaller timbered parcels, tends to have relatively smaller sales ranging from 10 thousand board feet for insect salvage to 5 million board feet for the largest size sale. Typically, the BLM timber sale in the Redding Resource Area is between 750 thousand board feet and 2 million board feet using individual selection harvest systems and utilizing tractor yarding on slopes under 45% and cable systems on steeper slopes. Private industry and the U.S. Forest Service average more and larger clear cuts and private industry tends to use tractor yarding on steeper slopes than the BLM.

Road construction for the removal of forest products is dependent on the location and availability of previous access of the specific timber parcel. In many cases no, or minimal, construction is needed due to the proximity to county roads or other roads that were previously built for logging or other management activities. In other cases extensive road construction may be needed if the harvest is in a remote location.

As a general rule, BLM and other Government agencies manage their timber resources less intensively than large private ownerships. As a result, if BLM acquires timber land from the private sector the harvested volume may decline although the total acres managed may not. The reverse is true if BLM disposes of forest land to the private sector. In either event the impact to the regional timber supply is insignificant.

BLM forest management activities within the Redding Resource Area are directed by the Final Timber Management Plan and Environmental Assessment for Sustained Yield Unit 15, available at the Redding Area BLM office. During an average year, BLM will prepare and sell approximately 75 thousand board feet of standing dead and/or dying timber, 4.9 million board feet of standing green timber, and 200 cords of dead and down fuelwood from 300 to 600 acres. Of the standing/green timber sales, approximately 75% of the trees will be selectively harvested (ie. overstory removal, shelterwood harvest, etc.) and 25% of the trees will be selected in groups (ie. patch cuts and seed tree cuts less than 2 acres in size). Finally, it is reasonable to expect that between 50 to 200 acres of understocked BLM lands will be artificially reforested each year through tree planting.

PROJECTIONS (Forest Management)

NO ACTION ALTERNATIVE

Under the No Action alternative there would not be any significant change in the acreage or the level of intensity of timber harvest as explained above.

ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

Under this land-use management alternative, much of the forested land managed by BLM would be transferred to the U.S. Forest Service or exchanged for land with higher resource values in areas where BLM plans on maintaining a long term presence. It would be reasonable to expect that between 3.7 million board feet and 4.7 million board feet would be harvested each year from BLM lands through implementation of this alternative. As BLM acquired lands elsewhere, additional forested lands may be added to the commercial forested base. The above mentioned harvest levels would be attainable in the long term (70 to 100 years). In the short term (life of the RMP) harvest levels would be between 3.0 to 4.0 million board feet each year through implementation of this land-use management alternative.

ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE

Under this land-use management alternative, the total number of forested acres administered by BLM would increase, however timber would only be harvested to enhance the natural and cultural values of the area. It would be reasonable to expect that between 50 thousand board feet and 500 thousand board feet would be harvested from BLM land each year. These timber

sales would include insect and fire salvage sales, and habitat improvement projects.

RESOURCE USE WITH NATURAL VALUES CONSIDERATION ALTERNATIVE

Under this land-use management alternative, more acres would be managed by BLM for forest products but possibly at a slightly reduced intensity from the present situation. It would be reasonable to expect that between 3.6 million board feet and 4.6 million board feet would be harvested each year from BLM lands through implementation of this alternative. As BLM acquired lands elsewhere, additional forested lands may be added to the commercial forested base. The above mentioned harvest levels would be attainable in the long term (70 to 100 years). In the short term (life of the RMP) harvest levels would be between 3.0 to 4.0 million board feet each year through implementation of this land-use management alternative.

RESOURCE USE ALTERNATIVE

Under this land-use management alternative, the forested acres would be managed to maximize the timber output under the limitations of regulations and law. This alternative would increase the forested acres managed by BLM, but would not alter the regional timber yield due to the intensive management regime that would be used by BLM under this alternative. It would be reasonable to expect that between 5.1 million board feet and 6.1 million board feet would be harvested each year from BLM lands through implementation of this alternative. As BLM acquired lands elsewhere, additional forested lands may be added to the commercial forested base. The above mentioned harvest levels would be attainable in the long term (70 to 100 years). In the short term (life of the RMP) harvest levels would be between 4.0 and 5.0 million board feet each year through implementation of this land-use management alternative.

PROPOSED ACTION ALTERNATIVE

Under this land-use management alternative, regional timber production would be very similar to what would occur under the No Action Alternative. It would be reasonable to expect that between 3.7 million board feet and 4.7 million board feet would be harvested each year from BLM lands through implementation of this alternative. As BLM acquired lands elsewhere, additional forested lands may be added to the commercial forested base. The above mentioned harvest levels would be

attainable in the long term (70 to 100 years). In the short term (life of the RMP) harvest levels would be between 2.5 to 3.5 million board feet each year through implementation of this land-use management alternative.

Leasable Development (Oil and Gas)

BACKGROUND (Leasable Development/Oil and Gas)

Oil and gas exploration, leasing, and development is governed primarily by the Mineral Leasing Act of 1920, as amended, the 43 CFR 3100 Regulations and by applicable Onshore Oil and Gas Orders and Notice to Lessees. In addition, all operations will be conducted according to the Surface Operating Standards for Oil and Gas Exploration and Development "Gold Book", prepared by the BLM/U.S. Forest Service Rocky Mountain Regional Coordinating Committee.

Oil and gas exploration and development activities progress through four phases that are, in part, sequential and may overlap in time: preliminary exploration; exploratory drilling; development; and abandonment. A detailed discussion of these phases can be found in Appendix B of the Draft San Luis RMP and EIS, which is available for review in the Redding Area BLM office.

Between 1975 and 1988, 44 gas wells have been drilled in the Redding Resource Area, all of which have been on private lands with non-Federal mineral estate. Of the wells drilled, 31 were exploratory and only 13 were production wells. The producing wells in the Resource Area are located in gas fields found in south-central Tehama County, and in southwestern Butte County, west of State Highway 99. These fields are identified in the Redding Geology, Energy, and Mineral Report on file at the Redding Area BLM office. These producing and abandoned gas fields are all in the Sacramento Valley, in the areas identified as having high potential for natural gas on the oil and gas potential maps. Two exploratory wells have also been drilled on private lands in the Hornbrook Basin in northern Siskiyou county. This is a low potential area for natural gas.

Drilling activity in the Resource Area had peaks of activity in the late 1970's and early 1980's but has languished in the years since 1984. Viewed as a historic pattern of drilling activity, new periods of activity can be expected in the future, but with declining frequency and intensity. In the decade of the 1990's, it is reasonable to expect that 20 unsuccessful wells will be drilled, and that 10 producing wells will be drilled for a total of 30 wells. The location of future activity will generally be near the

historically active areas. Other areas may be tested, particularly if the economic incentives for oil and gas exploration increases due to much higher fuel costs. Most activity will probably occur on private lands and mineral estates, but for analysis purposes in this RMP, it is assumed that half of the activities in the scenarios listed below will occur on public lands or split estate lands. Variation of scenarios, by land-use management alternative selected, is not expected to be significant. These scenarios may occur almost anywhere in the areas described, on public or private lands.

Assumptions for reasonably foreseeable oil and gas exploration and development in the Redding Resource Area are outlined below. The assumptions are presented so that a meaningful and reasoned analysis of the cumulative impacts resulting from the activity over the life of the RMP can be presented. The assumptions are based on historical drilling activity in the Sacramento Valley and Hornbrook Basin, as well as the oil and gas potential for the area.

PROJECTIONS (Exploration/Oil and Gas)

1. Exploration wells encountering limited reserves of oil or gas may not be economically producible.
2. Future exploratory drilling will most likely be conducted in the high potential areas, although a lesser amount will occur in the moderate potential areas, and limited activity may occur in areas with low potential.
3. Twenty exploratory wells will be drilled over the life of the RMP.
4. The average disturbance for each well pad will be four acres.
5. The average width of disturbance for access roads, including a 20 foot roadway and ditches, will be 40 feet.
6. The average length of road constructed for exploration is one mile, and the total disturbance is five acres.
7. Exploratory drilling operations will require three to eight months per well. A non-producing well will be reclaimed within three years.
8. Acreage temporarily disturbed by exploratory drilling operations will be 9 acres per well, and the total acreage temporarily disturbed by exploration will be 180 acres.

PROJECTIONS (Development/Oil and Gas)

1. Two exploratory wells will encounter hydrocarbons in sufficient quantities to warrant field development.

2. Two fields will be developed with an average size of 505 acres, requiring an average of five wells per field for a total of ten producing wells.

3. Production will be piped to market.

4. Exploratory and development wells will continue to have all service operations (cementing, logging, bits, testing, etc) provided by established service organizations in the Sacramento and San Joaquin Valleys. The major benefit to the local economy would continue to be royalty share received by local school districts, property taxes, and wages paid.

5. The initial disturbance will be 9 acres per well, and 3 acres will be reclaimed within three years. The remaining 6 acres will remain disturbed for the life of the field plus three years, a total of approximately 20 years.

6. One third of the existing gas fields will be abandoned. The areal extent of these fields will total approximately 1500 acres and 270 disturbed acres will be reclaimed.

Leasable Development (Geothermal Resources)*BACKGROUND*

The leasing, exploration, and development of geothermal energy resources is governed by the Geothermal Steam Act of 1970, as amended, Federal Regulations at 43 CFR 3200, and all applicable Geothermal Resources Operational Orders.

There has been no geothermal exploration or development on public lands or split estate lands in the Redding Resource Area. Drilling of a few temperature gradient holes has occurred in the Shasta-Trinity National Forest in the vicinity of Mount Shasta, and in the Medicine Lake Highlands to the east. Some direct use of low temperature hot springs presently occurs at Big Bend, Shasta County and has historically occurred at Keswick Hot Springs in Siskiyou County.

Exploration and Development scenarios for the Redding Resource Area are divided into different areas.

Area 1 is the low potential area comprising the Sacramento Valley region, Area 2 is the moderate potential area in the Cascade Mountain Range, and Area 3 is the low potential areas not included in Area 1.

Variation of scenarios, by management alternative selected, is not expected to be significant. These scenarios may occur almost anywhere in the areas described, on public or private lands.

*PROJECTIONS**Area 1*

Area 1 comprises the parts of the Resource Area that include the Sacramento Valley. Conclusive data for Area 1 is available from temperature gradients taken in oil and gas wells drilled in the area. The potential for geothermal resources occurring here is for geopressurized reservoirs of warm water at depth. An average temperature gradient of 1.379 degrees F/100' can be calculated. This is slightly less than the average temperature gradient found in non-geothermal areas which is 1.4 degrees F/100'. This does not, however, rule out the possibility of low temperature development such as ground-water heat pumps, fish hatcheries, swimming pools, biodegradation, and fermentations. All of these uses require water temperatures between 68 degrees F and 86 degrees F. Temperatures of 68 degrees F could be encountered at a depth of about 600' and 86 degrees F could be encountered at 1900'. For most circumstances it would currently be uneconomic to drill to these depths for the uses listed above.

A. Exploration Scenario

1. One geothermal exploration well will be drilled in Area 1.

2. The exploration well will be a small diameter temperature-gradient well drilled to 1000' with a small rotary core rig.

3. The disturbance of the well site will be about 100' by 200'.

4. No roads will be required; brush will be cleared to accommodate a 10' wide vehicle.

5. Drilling will last for three weeks; the well will normally be abandoned and the site reclaimed after one year.

B. Development Scenario

1. Two development wells will be drilled; one for production and one for injection.
2. The depth of these wells will be 1000 feet.
3. The utilization facility will consist of a fish hatchery, biodegradation or fermentation plant, or ground-water heat pump facility.
4. Maximum disturbance for the entire project will be one acre.

Area 2

Area 2 comprises all of the areas identified as having moderate potential. As there has been no exploration or development in these areas, the potential is based only on geologic interpretation.

A. Exploration Scenario

1. 10 temperature gradient wells will be drilled to depths of 4000'.
2. The wells will be drilled with a truck-mounted core rig.
3. Well site size will be 200' by 200'.
4. Access will be through temporary roads cut through the brush and trees. Some earth may have to be removed in rough terrain. Total road width will be 15'.
5. Drilling time will average five weeks.
6. Wells are normally abandoned and the sites restored within one year of their completion.

B. Development Scenario

1. One electrical-generation facility will be built:
 - i. The powerplant will have a 10 megawatt capacity.
 - ii. The plant will be a double-flash design.
 - iii. Total disturbed acreage for the plant and access roads will be 10 acres.
 - iv. The plant will be fed by 4 production wells and one injection well.

- v. Each well will be drilled with a rotary rig to a depth of 8000'.
- vi. Each well site will require 2 acres of disturbance.
- vii. access to the well sites will be on roads cut 20 feet wide including ditches. Roads will be one mile long.
- viii. Pipelines from the wellsite to the powerplant will be one mile long and require a 20 foot wide path of disturbance.
- ix. Wells will take 6 weeks each to drill.
- x. Transmission lines from the powerplant to the nearest tie-in point will be 50 miles and require a 20 foot wide disturbance.

2. Four direct-use facilities will be built:

- i. Each facility will require one acre of disturbance.
- ii. Each facility will be fed by one production well and one injection well.
- iii. Each well will be drilled to 2000'.
- iv. Each well site will have one acre of disturbance.
- v. Access to the well site will be on roads built 20 feet wide including ditches. Roads will be one mile long.
- vi. Pipelines from the wellsite to the powerplant will be one mile long and require a 20 foot wide disturbance.
- vii. Wells will take four weeks to drill.

Area 3

Area 3 consists of the areas identified as low potential that are not within the Sacramento Valley. As there has been no exploration or development in these areas, the potential is based only on geologic interpretation.

A. Exploration Scenario

1. 2 temperature gradient wells will be drilled to depths of 4000'.
2. The wells will be drilled with a truck-mounted core rig.
3. Well site size will be 200' by 200'.

4. Access will be through roads cut through the brush and trees. Some earth may have to be removed in rough terrain. Total road width will be 15'.

5. Drilling time will average five weeks.

6. Wells will be abandoned and the sites restored within two years of their completion.

B. Development Scenario

1. One direct-use facility will be built:

- i. The facility will require one acre of disturbance.
- ii. The facility will be fed by one production well and one injection well.
- iii. Each well will be drilled to 2000'.
- iv. Each well site will have one acre of disturbance.
- v. Access to the well site will be on roads cut 20 feet wide including ditches. Roads will be one mile long.
- vi. Pipelines from the wellsite to the powerplant will be one mile long and require a 20 foot wide disturbance.
- vii. Wells will take four weeks to drill.

Locatable Mineral Development

BACKGROUND

Recent locatable mineral activities in the Redding Resource Area have consisted mostly of prospecting for and mining of gold, both lode and placer; and sand and gravel mining on pre-1955 mining claims. Some exploration activities for copper, zinc, and associated precious metals have also occurred. Some mining claims, most of which are inactive, are located for silver, copper, lead, zinc, platinum, chrome, limestone, or other minerals. Locatable mineral development occurs on BLM, U.S. Forest Service and private lands in the Resource Area.

In general, the frequency of mining activity in the Resource Area directly correlates with mineral potential and the location of mining claims and existing mines and known mineral deposits. Most locatable mineral mining occurs in high or moderate potential areas and little activity occurs in low or no potential areas. Locatable mineral development is most likely in the Klamath Mountains and Sierra Nevada geologic and geomorphic provinces.

Most of the mining activities in the Resource Area, which are more than casual use, consist of placer mining or small underground lode mining, and the often attendant residential occupancy. Underwater suction dredging for placer gold in stream and river bottoms, is seasonally very popular in the Resource Area and is usually considered to be casual use. Suction dredging is closely regulated by the California Department of Fish and Game, and when conducted according to state regulations, in and of itself, causes little adverse environmental impact. Most of the dry land "high bank" placer operations occur within the alluvium covered bottoms of stream and river valleys and can adversely effect riparian vegetation and wildlife habitat, water quality, fisheries, and scenic values. Lode mining activities are primarily centered around small underground gold vein deposits, with surface disturbing activities typically occurring with exploration trenching, road construction, and waste rock disposal. Some open pit mining has occurred, primarily for massive sulfide deposits.

Since the implementation of the 43 CFR 3809 Regulations in January of 1981, the Redding Resource Area has received, on average, approximately 22 Notices and Plans of Operation each year. Currently, approximately 120 of these Notices and Plans continue to be "active", that is, mining related work continues on some basis, reclamation has not been performed, or work has ceased but the miners wish to continue the operations at some indeterminate time in the future. It is estimated that only half of the Notice and Plan level mining activities, occurring in the Resource Area, comply with the 43 CFR 3809 Regulations by properly notifying the BLM before starting work. Total surface disturbance of individual mining operations tends to be less than 5 acres and is, therefore, usually not subject to a Plan of Operations.

The two exploration and development scenarios below describe the normal sequence of events which can occur on lode and placer deposits. Some or all of the elements may be present in each event. The range in number of events is due to many factors. Some of these are: fluctuation in mineral prices, availability of land open to mineral location, and discovery of new mineral deposits.

Variation of scenarios below, due to selection of different land-use management alternatives, is not expected to be significant. Mining level intensities will generally and gradually decline in withdrawn areas, but may never cease, due to the grandfathered rights of older claims.

It is estimated that approximately ten percent of all locatable mineral mining activities occur on BLM managed public land in the Redding Resource Area. The majority of activities occur on U.S. Forest Service managed lands, and a small portion on private lands. This ten percentile is estimated by calculating the percentage of mining claims on BLM managed lands to total mining claims (10%), and comparing the number of notices and plans of operations on U.S. Forest Service and BLM managed lands (approximately 10 to 1). The number of actions occurring on BLM managed lands is considered to be ten percent of the figures given in the scenarios below.

PROJECTIONS (Lode Mining)

1. Claim location (staking)- consisting of vehicular access, surveying, monumenting, signing, and brushing of claim boundaries. Work is accomplished with survey equipment, hand tools, wheeled vehicles, and human labor. Very minimal and temporary surface disturbances result from these activities. On private lands and mineral estates much of this step is eliminated. The number of lode claims located each year will probably range from 100 to 1000 within the Resource Area.

2. Prospecting- using various geochemical and geophysical methods, geologic mapping, limited sampling of soils, rock, plants, and suspected ore bodies for analysis via chemical analysis or fire assay. Short term camping in the prospecting area sometimes occurs. Work is accomplished with hand tools, electrical apparatus, wheeled vehicles, and human labor. Very minimal and temporary surface disturbances result from these activities. Mining claim assessment work often falls in this category. This type of activity will probably occur in the Resource Area from 250 to 2500 times a year.

3. Exploration work- consisting of: surface trenching, core drilling, road construction or improvement, removal of vegetation and soil, bulk sampling of surface rock, refurbishing old underground workings, and new tunneling underground. Some removal of small amounts of ore is likely to occur. Short term camping at the exploration site(s) often occurs while these activities are being conducted. Equipment used at this stage can consist of what is used during prospecting plus backhoes, caterpillar-type dozers, loaders, graders, heavy trucks, air compressors, rock drills, electrical generators, mine timbers, and explosives. Surface disturbances consist of new and regraded old roads, trenches and small pits, cleared and leveled

working areas, and tailings disposal at or near mine entrances. Generally, up to five acres per exploration project, mostly from road work, can be anticipated. Mining claim assessment work often falls in this category. Lode exploration is likely to occur at 100 to 1000 sites per year in the Resource Area.

4. Mine development occurs when an ore body has been found and consists of: road construction or improvement, equipment setup, site preparation-vegetation removal, topsoil and overburden removal, underground tunneling, refurbish old buildings and underground workings, establish miners camp, construct settling pond(s), develop water supplies via pipelines and reservoirs, install power lines and cutting of timber for use in the mine. Some removal of small to moderate amounts of ore is likely to occur. Moderate to long-term occupancy (camping) can occur at this stage if warranted. Equipment used during development can be the same as used during exploration; plus, mucking machines, ore cars, and large amounts of construction materials. Additional surface disturbances of up to five acres per mine can be anticipated. Some mine development is likely to occur at 50 to 250 mines per year within the Resource Area.

5. Mineral extraction often occurs concurrently with mine development and consists of: excavation of ore and waste rock using dozers, backhoes, loaders, mucking machines, drilling and explosives; moving ore and waste material using ore cars, trucks, or conveyor belts; processing ore using grizzly (sorting) screens, crushing or grinding mills, jigs, flotation cells and shaker tables; shipping ore for offsite processing via trucks; recycle water in ponds via pumps; mining waste material generated is used for backfilling or placed in above ground dumps, general operation of heavy equipment, residential occupancy. Up to five acres of additional surface disturbance can be expected from this stage, generally from surface mining of ore, processing of ore material and above ground waste material placement. Significant mineral extractions are likely to occur at 50 to 250 mines per year.

6. Reclamation can occur after the prospecting, exploration, mine development or mineral extraction phases depending on the success of the miner in finding and exploiting an economic ore deposit. Reclamation consists of: removal of equipment, construction material, hazardous materials, and structures; recontouring surface disturbances, elimination of public safety hazards (pits, adits, highwalls), replacement of stockpiled topsoil onto disturbed/recontoured areas,

revegetation. Roads may or may not be completely reclaimed depending upon planned or prospective future uses, i.e. fire access/breaks, other resource uses, future mining use. Past experience has shown that reclamation may be limited, in many cases, to natural revegetation and slope reduction due to abandonment or long term non-use of the mine/exploration site. Increased emphasis on BLM minerals program through adequate funding and personnel levels may alleviate this problem in the future.

7. Patent issuance can be the final stage in locatable mineral development on public land. By statute, if a claim is determined to be valid by BLM, then the owner of that claim can receive fee title (patent) to the land through application and purchase. This is a non-discretionary BLM action, hence BLM need not comply with NEPA when granting a patent. In most cases, patent is granted for both the surface and mineral estates. In the past ten years, no lode mining claim on BLM managed public lands has received patent in the Redding Resource Area. It is believed, that if they are ever subjected to the close scrutiny of a validity examination, only a small fraction of the total number of claims in the Resource Area would be considered valid.

PROJECTIONS (Placer Mining)

1. Claim location (staking)- consisting of vehicular access, surveying, monumenting, signing, and brushing of claim boundaries. Work is accomplished with survey equipment, hand tools, wheeled vehicles, and human labor. Very minimal and temporary surface disturbances result from these activities. On private lands and mineral estates much of this step is eliminated. The number of placer claims located each year in this Resource Area will probably range from 200 to 2000.

2. Prospecting consists of sampling of soils, gravels, and in water courses, and occasionally geophysical testing of suspected ore deposits. Short term camping in the prospecting area often occurs. Work is accomplished with hand tools, sluice boxes, suction dredges, wheeled vehicles, and human labor. Very minimal and temporary surface disturbances result from these activities. Mining claim assessment work often falls in this category. This type of activity will probably occur from 1000 to 10,000 times a year within the Resource Area boundaries.

3. Exploration work can consist of: surface trenching, sample drilling, road construction or improvement, removal of vegetation and soil, construction of settling

ponds, suction dredging, and bulk sampling and processing of placer material. Removal of small amounts of ore is likely to occur. Short to medium term camping at the exploration site often occurs while these activities are being conducted. Equipment used at this stage can consist of what is used during prospecting plus backhoes, caterpillar-type dozers, loaders, graders, heavy trucks, electrical generators, screening devices, and portable washplants. Surface disturbances consist of new and regraded old roads, trenches and small pits, cleared and leveled working areas, and settling ponds. Generally, up to three acres per exploration project, mostly from road work, can be anticipated. Mining claim assessment work often falls in this category. Placer exploration is likely to occur at 200 to 2000 sites per year within the confines of the Resource Area.

4. Mine development occurs when an ore body has been found and consists of: road construction or improvement, equipment setup, site preparation-vegetation removal, topsoil and overburden removal, establishment of miners camp, construction of settling pond(s), development water supplies via pipelines and reservoirs, and installation of power lines. Moderate to long-term occupancy (camping) can occur at this stage if warranted. Equipment used during development can be the same as used during exploration; plus large amounts of construction materials. Additional surface disturbances of up to five acres per mine can be anticipated. Some mine development is likely to occur at 50 to 500 mines per year, located in the Resource Area.

5. Mineral extraction often occurs concurrently with mine development and consists of: excavation of ore and waste rock using dozers, backhoes, loaders, suction dredges, moving ore and waste material using trucks, or conveyor belts; processing ore using grizzly (sorting) screens, sluice boxes, and washplants; recycle water in ponds via pumps; surface mining waste material generated is used for backfilling pits; general operation of heavy equipment, residential occupancy. Additional surface disturbance of up to two acres can be expected from this stage, generally from surface ore removal, processing of ore material and above ground waste material placement. Significant mineral extraction will probably occur at 50 to 500 mines per year in the Resource Area.

6. Reclamation can occur after the prospecting, exploration, mine development or mineral extraction phases depending on the success of the miner in finding and exploiting an economic ore deposit. Reclamation

consists of: removal of equipment, construction material, hazardous materials, and structures; recontouring surface disturbances, elimination of public safety hazards (pits, adits, highwalls), replacement of stockpiled topsoil onto disturbed/recontoured areas, revegetation. Roads may or may not be completely reclaimed depending upon planned or prospective future uses, i.e. fire access/breaks, other resource uses, future mining use. Past experience has shown that reclamation may be limited, in many cases, to natural revegetation and slope reduction due to abandonment or long term non-use of the mine/exploration site. Increased emphasis on BLM minerals program through adequate funding and personnel levels may alleviate this problem in the future.

7. Patent issuance can be the final stage in locatable mineral development on public land. By statute, if a claim is determined to be valid by BLM, then the owner of that claim can receive fee title (patent) to the land through application and purchase. This is a non-discretionary BLM action, hence BLM need not comply with NEPA when granting a patent. In most cases, patent is granted for both the surface and mineral estates. In the past ten years, only one mining claim on BLM managed public land has received patent in the Redding Resource Area. It is believed, that if they are ever subjected to the close scrutiny of a validity examination, only a small fraction of the total number of claims in the Resource Area would be considered valid.

Range Management for Domestic Grazing

BACKGROUND

Grazing of domestic livestock has been a continuous component of the regional economy since the Gold Rush era of the mid 1800's when great demands for beef were established. Livestock is predominantly grazed on non-irrigated rangelands within the five counties of the Redding Resource Area. Rangeland acreage within these counties varies considerably from 11% in Trinity to 55% in Tehama, with Shasta (27%), Butte (34%), and Siskiyou (42%) falling between. Ranch size and carrying capacity are quite variable throughout this area, with an average operation producing around 300 to 500 head of beef cattle. Most ranches are still locally owned, family operations, even though an increasing number are being sold to corporations and multi-ranch absentee owners. Cow-calf operations are the dominant practice, involving grazing, breeding and calving during the fall, winter, and spring months, and transporting livestock to high elevation summer grazing ground that are usually

out of the Redding Resource Area. The only exception is Siskiyou County which has enough irrigated rangeland to retain its cattle throughout the year.

Most of the existing rangelands within the Resource Area are grazed because they are presently unsuited for other land uses and not because they are highly productive for livestock forage. These lands are too remote, steep, dry, and/or rocky to be economically suited for other applications. Thus, they have become traditional grazing areas by default, especially in Tehama and Siskiyou counties, and will retain this tradition for quite some time.

During the last decade, a modern historic trend has accelerated the conversion of some rangelands in northern California to more intensive types of land uses which includes rural residential, suburban residential, irrigated cropland, and other commercial uses. This trend has been most notable in Butte and Shasta Counties due to the expanding commerce centers of Redding, Chico, and Oroville. In Tehama County, rangeland is being converted to rural residential uses near Red Bluff and the Sacramento River. Other Tehama rangelands are being converted to irrigated cropland. The limited amount of rangeland in Trinity County coincides generally with the area of increased development near Weaverville, Hayfork, and the Trinity River. These trends will continue making ranching near population centers increasingly impractical during the planning horizon of this RMP. At the same time, the general public adjoining these rangelands will increasingly become concerned about the loss of amenity values of rangelands, e.g. open space, wildlife habitat, watershed etc., as these lands are converted to developed uses. These concerned citizens will likely have a little success in halting the conversion process. Even with the gradual decline in rangeland acreage, livestock grazing will continue as long as there is a demand and profitability to provide this commodity.

PROJECTIONS

The BLM Redding Resource Area, is utilizing most of its suitable rangelands and currently has 51,200 acres leased for livestock grazing producing 1,175 head of livestock. This equates to less than 1% of both the total rangeland acres and head of livestock produced outside of BLM lands within the Resource Area. These amounts are regionally insignificant and under any of the land-use management alternatives of the RMP, no significant changes would occur to these numbers or the regional livestock industry due to BLM actions. The only anticipated change in grazing management would be the

exclusion of grazing within riparian zones and wetlands in specific areas where BLM consolidates public land ownership. This grazing management action is common to all land-use management alternatives.

Recreational Use Development

BACKGROUND

In order to project the reasonably foreseeable recreational use and development of the Public Lands (BLM) in the Redding Resource Area, it is necessary to recognize the role those public lands play in relation to other publicly owned lands and private lands within the planning area. The public lands which have significance to recreation use and development either contain some sort of recreational attraction (i.e. Trinity River, Sacramento River, Klamath River and Butte Creek Canyon, etc.) or are situated in places where they are the only vacant lands which are both accessible and available for people to pursue recreational activities (which are for the most part excluded from private lands). Many examples of the latter category are present around the cities of Redding, Yreka, Weaverville and Paradise. It may be said that the public lands along the Sacramento, Trinity and Klamath Rivers as well as along Butte Creek have a regional or even national recreational significance signaled by their regional and national visitation patterns, while the scattered public lands which contain little more than available and accessible open spaces have predominantly a nearby local recreational clientele and locally derived visitation patterns.

The regionally significant public lands where BLM manages the recreation resources account for about 10,000 acres of public lands within the Resource Area, or roughly 4% of BLM administered public land. Of the remaining 96%, less than half is available and accessible for open space uses (off-road vehicle use, hunting, walking, target shooting, etc.) and a smaller amount actually receives regular recreational use.

The public land must also be viewed in relation to the total land area and the other Federal and State land which is available and accessible for recreation uses within the planning Area. The following figures may help the reader in seeing this relationship:

Total land acreage within the Redding Area boundary 9,914,000

Approximate National Forest acreage in the planning area 5,500,000

Total BLM Public Land within the Area boundary 247,500

Percent of total land which is BLM public land 2.5%

BLM public lands at 247,500 acres represent less than 4% of the Federal land base, however the relatively minor Federal acreage represented by BLM is not a useful measure of its significance. Due to their close proximity to major transportation corridors and growing communities, many of the public land parcels attract very intensive and continuous local recreational use. Such areas allow local populations nearby open spaces for pursuit of activities which would require more costs in terms of advance planning and travel if pursued at more distant open space areas.

PROJECTIONS (Recreational Use)

The local population trends will place greater demands upon public lands close to communities, primarily for day-use opportunities of both developed facilities and undeveloped open space areas. In this regard BLM lands immediately surrounding the area's cities and towns will receive growing use pressure resulting in increased conflict between competing visitors as well as resource damage from excessive use. Both resource and social problems will increase more rapidly than the local population growth rate because the amounts of available open space will diminish through public land disposals and from conversion of remaining public lands to other uses (schools, etc.).

Leisure time availability is expected to change as more of the workforce utilizes opportunities for alternative work schedules. This will result in increased recreational use of the public lands over the traditional work week period (Monday through Friday). Also, the large seasonally employed workforce (timber, tourism) will continue to utilize public lands for recreation during the winter months when regional visitation drops off. Another segment of the local population is the chronically unemployed and persons whose lifestyle is dependent upon public assistance in one form or another. As this population continues to grow it will place greater use pressure on the accessible and available nearby public lands.

Demographic shifts can also affect recreation use and development trends. It is expected that the hispanic population, the fastest growing part of California's population, will be in the majority within a few years, followed closely by people of asian background. Both of

these growing populations tend to prefer a greater degree of social interaction as part of their recreation experiences than is characteristic of caucasians; however, their participation in recreation activities which are dependent on backcountry areas is lower. Larger numbers of visitors utilizing relatively smaller areas near population centers is likely, and resource damage resulting from concentrated use should be expected. As a result, there will be a need for developed recreational facilities in places that are presently popular as undeveloped open space.

As residential development expands outwardly from the Redding Resource Area's growing communities, many of the existing open space parcels of public land will be bordered by (or surrounded by) residential development. As the population density surrounding these public land parcels increases, many recreational activities which have traditionally occurred upon them (off-road vehicle use, shooting, hunting, etc.) will create conflicts with neighboring residents. Demand will increase for closer control and elimination, or restriction of certain uses. Successful control of such uses may require displacement through disposal of those parcels to private ownership, or transfer to a local governmental jurisdiction for parks or some other sort of development.

The limited recreation use of the public lands which are scattered along the foothills of the Sacramento Valley, Scott Valley and Shasta Valley will remain steady over the coming decade, and will decline gradually thereafter as these lands move into private ownership. Recreationists will for the most part be displaced to the nearby National Forests. Recreation use of the Forests is well below capacity and the National Forests in the area expect to have surplus capacity well into the coming century for both developed facility uses and backcountry uses.

Within the Special Recreation Management Areas (SRMA's) and other areas where BLM expects to consolidate public land ownership, there will be a shortage of available use opportunities in many places by the turn of the century. Some of these areas have prescribed visitor use levels in order to preserve a set of specified recreational use experience opportunities. Because of their limited acreage, proximity to major transportation corridors, and proximity to local population centers, maximum visitor use levels will have to be established and enforced. Further restrictions on types of uses will also be required. Regional visitation to these areas will increase at a slower rate than local visitation (3% annual-

ly for regional visitation and 10 to 15% annually for local visitors).

While visitor use has been stabilized in the Forks of Butte Creek Recreation Area through permitting for recreational mineral collecting, it is expected that by the year 2000 use level restrictions may be needed as the cities of Paradise and Chico continue to grow.

The Gene Chappie/Shasta Off-Highway Vehicle Area is expected to be fully developed by the year 1997, with all trails and staging facilities fully operational. Visitor use is anticipated to grow to around 100,000 visitor days annually and stabilize at that level by the year 2000. This use level would be well below the potential carrying capacity.

The Trinity River SRMA will continue to accommodate gradual growth in visitation with the planned developments. Limits on certain types of activities may be required and may be accomplished by limiting public access, capacity of developed facilities, imposing or increasing user fees and limiting commercial use permits. Due to this area's predominantly regional and seasonal visitation pattern as well as the limited supply of developable private land near the river, this SRMA should reach a stable use level commensurate with designed capacity by the year 2000 at 120,000 visitor days annually, compared to fluctuating use levels between 75,000 and 100,000 visitor days annually over the 1980's. Demand for this area's recreational attractions is affected strongly by changes in transportation costs (primarily the price of gasoline), water availability in other California rivers, and the condition of the anadromous fishery. This SRMA will not be seriously affected by changes in local economic or social conditions.

The Sacramento River SRMA will be the most volatile area with regard to recreational use and development over the planning horizon. The BLM efforts to increase the public land acreage and preserve this area's amenity and natural values will be pursued in direct competition with private land development interests. The remaining agricultural properties (cattle ranches, orchards, etc.) which are needed to protect the area's recreation and wildlife values are also prime real estate for large scale residential or commercial development. Several of these large properties are available for sale. Small acreage residential development is already occurring along the Sacramento River in parts of this area. Conversion of the river frontage is likely to accelerate in the coming decade, and once underway, enhanced infrastructure

will further accelerate development, rapidly escalating land values. Recreational use of this area has grown from less than 12,000 visitor days in 1980 to over 25,000 visitor days in 1990. This increase was due in large part to greater public awareness of the available public lands through signing, public participation in management planning and informational media.

With rapidly growing populations in the nearby cities of Redding, Anderson and Red Bluff, demand for use of the Sacramento River (SRMA) by the local population alone for fishing, hunting, horseback riding, float boating and hiking is expected to increase throughout the planning horizon at more than 10% annually. The importance, accessibility and high visibility of the Sacramento River in California will continue to attract visitors from throughout the region at increasing rates, however such regional visitation, due to the required advance planning and travel times, will be concentrated around seasonal attractions (salmon runs, holidays, etc.). Prescribed visitor use levels are expected to be reached sometime around the year 1996 during times when there are anadromous fish runs and hunting seasons. During such times use may need to be restricted in order to preserve the designed experience opportunities. Use pressure from surrounding residential development could force use restrictions on a full time basis as soon as the year 2000, depending upon the proximity and scale of such development and the amount of additional area which can be brought into public ownership. With more public ownership the need to limit numbers of visitors could be delayed since there would be additional space to disperse users. As use opportunities on nearby private lands are further restricted or eliminated by development, demand could substantially surpass this area's prescribed visitor capacity.

Along the upper Klamath and Shasta Rivers in the northerly part of the Resource Area public land ownership is fairly widely scattered and involves small acreage. Local visitation derives from a small population base which consists primarily of older people. While this population is growing due to in-migration, its impact upon the public lands is slight and not expected to create unmet demands for areas or facilities within the planning horizon. Regional visitation is primarily associated with commercial whitewater rafting trips originating in Oregon. The highly technical quality of the upper river limits non-commercial use, and BLM permitting system is an effective mechanism for keeping numbers of guided visitors within prescribed levels. Visitation overall along the Klamath and Shasta Rivers is not expected to increase substantially within the planning horizon.

Between 1990 and 2010, the most significant recreational use and development changes involving public lands will occur in the urban interface areas around the cities of Redding, Anderson, Paradise, Weaverville and Yreka. Changes in recreational use and development will occur most rapidly around the City of Redding. The scenario for each land-use management alternative will focus on the urban interface area of the City of Redding. The reader may anticipate similar occurrences at a somewhat slower rate on the Public Lands around the other cities mentioned above.

Under the Proposed Action (Resource Use With Natural Values Consideration) as well as the other land-use management alternatives (Resource Use, Administrative Adjustment and No Action) of the Redding RMP, the City of Redding and other community organizations will be allowed two years to identify and apply for those public lands in the urban interface area which they feel are needed for public purposes. Public Lands in excess to the needs of the City or other community organizations will then be used for exchange by BLM. Most or all of these public lands have been considered as "open space" by both the city and the county, available for unstructured public recreational use, and as such, an amenity value which involves no direct cost to the local government beyond occasional law enforcement service. Due to the Jarvis-Gann Act of 1978 (Proposition 13) and economic factors, local government or other organizations will probably be reluctant or unable to commit to acquisition and development of the greater part of the urban interface public lands. Under existing Federal law, the local agencies and organizations will not be allowed to acquire these Public Lands to simply "keep in the bank" for unspecified future uses. As a result, as the City grows outward, the scattered parcels of public land will be surrounded by residential and/or commercial private land development. Each such public land parcel will be treated as a "commons" by the surrounding community, however there will be no way to translate that potential community benefit into satisfactory or appropriate uses and controls. It is not part of BLM's mission to manage the public lands as local or community parks, for the benefit of a limited nearby population. BLM will have to concentrate its management efforts on high resource value lands of regional and /or national significance, as directed and funded through Congress.

What happens to these parcels next depends upon the makeup of the surrounding community, including such factors as financial wealth, average age, average educational level, attitudes about the environment and quality

of life, concerns about social responsibility, etc. If a public land parcel is highly valued for its natural open space by a majority of the surrounding community, it is possible that a cooperative management relationship can be developed whereby concerned citizens obligate their personal wealth, time and energy to preserving and protecting the parcel's amenity values under the general direction of BLM. If, on the other hand, the surrounding community does not value the public land parcel for its amenity and natural resource values, or is unwilling or unable to devote its energies to protecting these values, the subject parcel(s) will receive progressively more serious resource abuse and will also become a place of conflict between competing recreationists as well as public land abusers. The majority of such parcels will, therefore, be transferred to the private sector via land exchanges and be developed in accord with local governmental zoning requirements.

Under the Enhancement of Natural and Cultural Values Alternative, for example, several public land parcels west of Redding in the Clear Creek, Sugarloaf, Mule Mountain, Swasey Drive and Kett vicinities would be retained and managed for their open space amenity values. The success of this land use management alternative would depend directly upon the depth of commitment exhibited by the surrounding communities. There is historical precedent for this type of arrangement within the Redding Resource Area and other BLM field offices. This type of affirmative local stewardship is, however, a relatively rare occurrence.

IMPACT TOPIC DESCRIPTIONS and ANALYSIS METHODOLOGIES

The impact topics to be assessed include impacts to anadromous salmonid habitat, archaeological resources, deer winter range, scenic quality, slender orcutt grass, spotted owl, and wetlands/waterfowl habitat. The rationale for discounting additional impact topics from intensive analysis is discussed within Chapter 1. Impacts included within each analysis include direct, indirect and cumulative impacts. This section will introduce the impact topics to the reader, explain how they are quantified or measured, and disclose the procedures used within each analysis.

IMPACTS TO ANADROMOUS SALMONID HABITAT

What The Impact Topic Will Assess

This significant impact topic assesses the affect the various land-use management alternatives will have upon the quantity and quality of anadromous salmonid habitat (as discussed below) within key areas. Various land-use management alternatives within the RMP entertain management options along river and stream segments containing important salmonid habitat. For purposes of this analysis, it is assumed that land-use management actions that bring significant amounts of habitat under BLM administration where habitat conditions can be improved, are beneficial actions having significant positive impacts.

This analysis focuses on anadromous salmonid habitat within key areas (as discussed below). These key areas are important portions of streams or rivers below major water impoundments which presently allow effective passage and dependable spawning and rearing use by chinook salmon, silver salmon and steelhead trout. These key areas are located outside (or below) existing boundaries of the National Forests within the Redding Resource Area. These key areas presently contain public land administered by BLM, or are recommended for acquisition by BLM in one or more land-use management alternative. Other important anadromous salmonid habitat exists outside of these key areas; however, no recommendations are made in any land-use management alternatives of this RMP that would affect these important streams (ie. Antelope Creek, Bear Creek, and Cow Creek on the Sacramento River, Bogus Creek and Cottonwood Creek on the Klamath River, Moffet Creek on the Scott River, and Browns Creek on the Trinity River).

How the Impacts Are Measured

Impacts are quantified as miles of stream affected through implementation of the various land-use management decisions. Currently BLM administers 43 miles of critical salmonid habitat. Although these 43 miles represent a small fraction of total anadromous fish habitat in the Resource Area, it contains some of the most important habitat in northern California. This is due to the location of BLM administered parcels in relation to the cold water releases of large reservoirs and/or important spawning and rearing habitat.

What Specific Items Are Assumed To Aid The Analysis

Habitat assessed within the analysis includes the spawning and/or rearing habitat of chinook salmon, coho salmon, and steelhead trout. It does not include resident trout such as rainbow and brown trout. Critical habitat is any portion of the overall habitat requirements which would appreciably decrease or increase the likelihood of survival or recovery of these anadromous fish species.

Prohibition of mineral location, restrictions on size and type of mineral collection equipment, and designation/management of critical salmonid habitat as Areas of Critical Environmental Concern would result in enhanced long-term protection of anadromous fish habitat.

Habitat restoration work by other public agencies (i.e. U.S. Fish and Wildlife Service, U.S. Forest Service, California Department of Fish and Game) and private organizations (i.e., Adopt a Watershed and Cal Trout) is assumed to continue under all land-use management alternatives. For the purposes of this analysis, these beneficial commitments having positive impacts are assumed to be the same in all land-use management alternatives. Any impacts to anadromous salmonid habitat, from the implementation of any BLM land-use management alternative, is in addition to the foreseeable actions of other agencies and organizations.

The total mileage of stream and river habitat to be assessed within key areas is 153.5 miles. Key areas to be assessed are listed alphabetically by river and, as appropriate, tributary stream to the river. The approximate length of these key areas (in miles) follow the descriptions:

1. Klamath River- between the convergence of Interstate 5 and Klamath River, and the National Forest boundary (6 miles).

Dry Creek Tributary-lowest reach (0.5 mile).

2. Sacramento River- between Balls Ferry and the gaging station below Sevenmile Creek (25 miles).

Battle Creek Tributary-below Ponderosa Way Bridge (40 miles).

Clear Creek Tributary-below the boundary of the Whiskeytown Unit of the National Recreation Area (13.5 miles).

Cottonwood Creek Tributary-portion below the Interstate 5 bridge within BLM administration (0.5 miles).

Deer Creek Tributary-between the Lassen National Forest Boundary and the Deer Creek Irrigation Ditch (8 miles).

Mill Creek Tributary-below the Lassen National Forest Boundary within BLM administration (0.5 miles).

3. Shasta River- below the Interstate 5 crossing (8 miles).

4. Trinity River- the portion of river between Lewiston Dam and the Trinity National Forest with unimproved land on one or both banks (34.5 miles).

Canyon Creek Tributary- below the National Forest Boundary (4 miles).

Deadwood Creek Tributary- lowest reach (3 miles).

Indian Creek Tributary- lowest reach (3 miles).

North Fork Trinity River- below the national Forest Boundary (1 mile).

Reading Creek Tributary- lowest reach (3 miles).

Rush Creek Tributary- lowest reach (3 miles).

IMPACTS TO ARCHAEOLOGICAL RESOURCES

What The Impact Topic Will Assess

This significant impact topic will assess the affect various land-use management alternatives will have upon archaeological resources. Archaeological resources evaluated in the impact assessment include a vast array of prehistoric and historic sites. Such sites are found most often in clusters where these peoples were largely dependent on resource availability and concentrations. There are isolated sites of significance as well. Most sites occur as point locations, that is aggregations of cultural remains several acres or less in size. A few are larger or include linear features such as historic roads. Archaeological sites that occur clustered most often represent temporally and culturally related locations and, as such, are considered both individually in terms of research and interpretive values, and also as a whole.

Negative impacts to archaeological resources arise through both natural and human causes. The human aspect is most pertinent in this analysis since surface disturbing activities (development, off-road vehicle use, illegal excavations, placement of fire lines, etc.) are detrimental to the integrity of archaeological sites. Indirectly, impacts can be created or accelerated through increased access and resulting illegal relic collecting and looting or vandalism. Impacts (limitations) to archaeological and historical research can result from special designations such as Wilderness, ACEC, and conservation for future use, or due to designation as a sacred Native American area. Changes in the watershed through forestry practices and brush reduction can lead to erosion of sites. Also, transfer of archaeological sites through public land disposal can likewise lead to site damage or destruction where restrictions on development and protective covering laws are less stringent. In a few cases, transfer could lead to more intense and favorable management as where local or state control would be applied such as around Shasta State Historic Park.

Acquisition can bring significant archaeological sites into Federal hands where laws and regulations are more protection oriented; research, conservation and interpretive opportunities may be expanded; and closer scrutiny of the sites can be undertaken by law enforcement personnel. The negative side to this would be impacts from greater mineral exploration and development, increased recreation uses and attendant illegal activities such as off-road vehicle play, artifact collecting, and vandalism to historic structures. Decreases in some potential negative impacts may result from limitations on grazing, improved forestry practices, channeled recreation, and erosion control measures.

What is most difficult is an accurate assessment of the level of positive and negative impacts each action and land-use management alternative would have. Most areas are less than 20% inventoried. Furthermore, not all sites have an accurate measurement regarding their significance, whether it be National Register of Historic Places status or something less. In those areas where there is higher inventory and some research evaluations, it is possible to make subjective judgements on where sites are and are not, and how important those sites or areas might be to the public. Because most areas have not been systematically surveyed, accurate impact predictions are not possible. In these areas, informed guesses are used to evaluate impacts. This is true as well on adjoining or nearby private and state and Federal lands. Within the Resource Area there are nearly 10%

of all officially recorded sites, approximately 400. It is estimated that there may be 3000-5000 archaeological sites unevenly distributed on BLM lands and at least twenty times this many on private, State and other Federal lands within the Redding Resource Area.

How The Impacts Are Measured

Impacts are quantified in terms of the number of sites and, in a few cases, linear miles, affected by the various land-use management alternatives. These impacts are shown in narrative form within the Environmental Consequences section, and within Table 4-1. Acreages involved are minimal, at the most for all archaeological resources less than 5,000 acres within the Resource Area. However, some significant archaeological resource zones may include large blocks of hundreds of acres. Still, since BLM has only defined a few of these zones (e.g. Swasey Drive, Inks Creek/Paynes Creek, Lake Oroville, Forks of Butte, Deadwood/French Gulch, Quartz Hill), for purposes of this analysis, impacts are measured by the number of sites disturbed or destroyed or, in the cases of exchanges, potentially transferred to private parties.

What Specific Items Are Assumed To Aid In The Analysis

Any one of the proposed land-use management alternatives is expected to cumulatively impact (positively and negatively) less than 15% of BLM sites in the Resource Area. The remaining sites will remain virtually unaffected. Since these resources are non-renewable and so little is known about them, losses will be kept to a minimum during plan implementation through project specific inventory, various consultation processes, site testing and evaluations, avoidance, installation of protective devices and signing, education, ACEC designation, and other mitigating actions, both administrative and on-the-ground. All official actions will follow Federal guidance, especially the archaeological resource laws, lessening the negative impacts.

IMPACTS TO THE DEER WINTER RANGE

What the Impact Topic Will Assess

This significant impact topic assesses how the various land-use management alternatives of the Redding RMP may affect deer winter ranges (as defined below). Certain land use alternatives could degrade or enhance the amount of deer winter range directly through manage-

ment actions (ie. timber harvest) or through authorization of private development with land tenure decisions.

How The Impacts Are Measured

Acres of habitat lost or gained within the three deer winter ranges (described below) will be the primary measure used to identify the impact. Percent changes in deer population levels will be identified where feasible. All percent changes are an estimate based on the number of BLM administered acres acquired or lost. Changes affecting more than 10 percent of the habitat would be considered a significant impact for discussions in this document.

Three deer winter ranges will be discussed in this evaluation. Two deer winter ranges are located in the Trinity Management Area and one deer winter range is in the Shasta Management Area. In the Trinity Management Area, the two ranges are the Hayfork deer winter range and the Weaverville deer winter range. The Hayfork range consists of 26,484 acres, broken down as follows: BLM 2,800, private 4,800 in developed areas (developed areas are those that are zoned at 40 acres or less and have some type of structure on them), 10,064 acres of private undeveloped, and 8,820 acres under administration of the U.S. Forest Service. The Weaverville range contains 82,563 acres, broken down as follows: BLM 27,428, U.S. Forest Service 8,580, private in developed areas 8,080, and private undeveloped 38,484. There is one deer herd using the Shasta Management Area, the Whiskey Town Deer Herd. The deer winter range for this herd consists of approximately 52,500 acres, of which 17,700 are administered by BLM.

What Specific Items Are Assumed To Aid The Analysis

Several management areas have 10 percent or less of the existing deer winter range in BLM administration. In these areas, BLM actions should not result in adverse or beneficial impacts. These Management Areas are Klamath, Scott Valley, Ishi, Sacramento River, and Yolla Bolly. Only those deer winter ranges in the Trinity River Management Area and the Shasta Management Area will be discussed.

Deer winter range should remain stable throughout the Resource Area. However, if current population growth in the northern part of the state continues as predicted, development will adversely impact deer winter range habitat. Critical areas and other areas identified by California Department of Fish and Game will continue to

receive treatment to improve availability and quantity of forage. Forage allocations and impacts to deer and deer ranges have been previously identified in the Redding Grazing Environmental Impact Statement completed in 1982 and the Final Timber Management Plan and Environmental Assessment for Sustained Yield Unit 15 completed in 1980.

For purposes of this analysis, deer winter range is defined as the area of land lying below 3500 feet elevation that deer use during the winter months (November 15 to April 15). Characteristic vegetation of these areas include: oaks (*Quercus* sp.), manzanita (*Arctostaphylos* sp.), ponderosa pine (*Pinus ponderosa*), digger pine (*Pinus sabiniana*), ceanothus (*Ceanothus* sp.), Mountain mahogany (*Cercocarpus betuloides*), and Chamise (*Adenostoma fasciculatum*).

IMPACTS TO SCENIC QUALITY

What the Impact Topic Will Assess

This impact analysis will assess the impacts upon scenic quality for each of the land-use management alternatives of the Redding RMP.

In many cases the effects of possible land-use allocations cannot be predetermined because there is far too much variability in the possible land treatments which could result from the selection of a particular land-use management alternative. It therefore becomes necessary to describe potential effects in terms of the most likely worst-case scenario when discussing impacts to scenic quality. That is to say, given particular land-use allocations, to what degree would changes in land-use alter the characteristic landscape, and would such alterations result in improved or degraded scenic quality?

Impacts to scenic quality are assessed in terms of generally accepted guidelines which are based upon popular acclaim to a very large degree. Within the Redding Resource Area most of the public land has been inventoried and has a scenic quality rating assigned - either "A" for high scenic quality (and high viewer sensitivity), "B" for either high scenic quality but lower viewer sensitivity, or, somewhat lower scenic quality but high viewer sensitivity, and "C" for areas where neither high scenic quality or viewer sensitivity are important considerations. For example, both scenic quality and viewer sensitivity rate highly along the Trinity River, which therefore is classified as having "A" scenic quality. On the other hand, the public lands immediately to the north and west of the City of Redding are of lower scenic

quality and also are not considered significant landscapes to the area's population. These lands are classified therefore as having a "C" scenic quality rating. The public lands within the viewshed of Whiskeytown Lake are quite similar in terms of landscape character to the lands in the near western viewshed of Redding, however because viewer sensitivity is so high at the Whiskeytown National Recreation Area, Those public lands are classified as having a "B" or "A" scenic quality rating.

Actions on a public land parcel which could substantially modify a highly scenic landscape which is not considered an important visual resource (low viewer sensitivity or seldom seen) could occur without actually impacting the overall public land scenic quality. For example, a major timber sale involving large clearcuts and extensive road construction which occurs in an area which is not highly valued for its scenic resources (a "C" scenic quality area), would not negatively impact scenic quality. If the same type of timber sale were to occur adjacent to the Trinity River, scenic quality could be significantly negatively impacted because scenic quality and viewer sensitivity are high for this area.

Impacts to scenic quality are determined as much, therefore, by where an action occurs relative to viewsheds and viewer sensitivity to those viewsheds, as by what the particular action might involve in terms of landscape modification.

How the Impacts Are Measured

Scenic quality is measured by applying seven evaluation factors to a landscape, generally from one or more positions or perspectives which are called "key observation points". These are positions from which the subject landscape is most likely to be viewed. Using the Scenic Quality Inventory and Evaluation system, a relative value can be assigned to each of the seven evaluation factors (landform, vegetation, water, color, influence of adjacent scenery, scarcity and cultural modifications). Each evaluation factor receives a score, and the sum of these scores will identify the landscape as having an "A", "B", or "C" scenic quality rating.

The landscape is then evaluated in terms of viewer sensitivity, measured by such things as type of users, amount of use, public interest, adjacent land-uses and whether the landscape is part of a special area (National Conservation Area, National Park, Wild & Scenic River, etc.). Viewer sensitivity is scored as "high", "medium" or "low".

Impacts to scenic quality are measured using the Visual Contrast Rating system. This system measures impacts in terms of contrast with the basic elements (form, line, color, and texture) of the existing landscape. An action which create a strong, moderate, weak, or no contrast with elements of the existing landscape. The sum total of contrasts is scored and then compared to the scenic quality rating score. High degrees of contrast in terms of line, form, color and texture result in major impacts to scenic quality on landscapes which have high scenic quality ratings. On the other hand, actions which cause high levels of contrast to form, line, color and/or texture to landscapes which have low scenic quality ratings do not usually result in significant scenic quality impacts.

What Specific Items Are Assumed To Aid The Analysis

In assessing impacts to scenic quality, there are unknowns which will affect the validity of an analysis over the long term. While the physical elements of a landscape may remain relatively unchanged, viewer sensitivity is probably the most likely factor to change over time, and is the hardest factor affecting scenic quality to predict.

For example, a relatively uninteresting hillside which had been rated as possessing a "C" scenic quality rating could quickly become a significant viewshed through any number of on or off-site actions. An expensive subdivision might be built overlooking the subject hillside. This subdivision's property values might be attributed in substantial part to the views of this hillside. Another possibility might be the development of a highway overlooking the hillside, or possibly this hillside could be included within some specially designated area which would cause the hillside's scenic values to gain in importance. Under such possibilities, the hillside would probably have to be reclassified as possessing "B" or possibly "A" scenic quality, based upon increased viewer sensitivity.

For the purposes of impact analysis, some limitations on long term validity must be accepted because scenic quality is so dependent upon human perceptions and values, which are likely to change over time, in less than predictable ways.

To aid analysis, it will be assumed that only public lands which have been inventoried as possessing "A" scenic quality are sufficiently important with regard to scenic quality to require impact analysis. It will be assumed that

scenic quality "B" and "C" areas will not be significantly affected by land-use allocations under any land-use management alternative to require analysis. It will also be assumed that land-use allocations which do not contain inherent modifications to landscape character will not affect scenic quality.

Scenic quality was determined to be an outstandingly remarkable value within twelve stream corridors determined eligible for inclusion in the National Wild and Scenic Rivers System, i.e. Battle Creek, Beegum Creek, Butte Creek, Clear Creek, Deer Creek, Middle Fork Cottonwood Creek, Mill Creek, Paynes Creek, Sacramento River, Shasta River and South Fork Cottonwood Creek. It is assumed that this scenic quality of public lands within these corridors would be protected under all land-use management alternatives until conclusive suitability studies have completed and/or the U.S. Congress determine that the corridors shall be included in the National Wild and Scenic Rivers System. Since scenic quality in these corridors could be protected only temporarily, assessment of positive or negative impacts would be premature and will not be addressed in this analysis.

BLM Visual Resource Management System

Scenic quality is managed by BLM to create, maintain, or allow certain landscape conditions under the Visual Resource Management System (VRM). Under this system, wherever scenic quality has been identified (through land-use plans) as a resource which should be managed, one of four VRM classes has been prescribed. These prescriptions constitute land-use allocations which establish parameters upon what may and may not occur on the affected public lands.

Visual Resource Management Class Objectives

Class I. - Preserve the existing character of the landscape. Provide for natural ecological changes. (This does not, however, preclude very limited management activity.) The level of change to the characteristic landscape should be very low and must not attract attention.

Class II. - Retain the existing landscape character. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III. - Partially retain the character of the existing landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV. - Provide for management activities which require modifications to the existing landscape character. The level of change to the characteristic landscape can be high. Management activities may dominate the view and can be the focus of viewer attention.

In areas where no VRM class has been prescribed, scenic quality is not considered a significant resource and is generally not considered in BLM's management decisions.

IMPACTS TO SLENDER ORCUTT GRASS

What The Impact Topic Will Assess

This significant impact topic will assess the impacts to slender orcutt grass (*Orcuttia tenuis*) and its' habitat through implementation of the various land-use management alternatives. Populations of slender orcutt grass, a native annual grass species found growing only in the north, central portion of California, have been drastically reduced as the direct result of its' habitats destruction and disturbance. Growing only in vernal pools (as defined below), it requires critical periods of inundation and dryness to complete its life cycle. Vernal pools are among the most threatened of all the state's ecosystems. Ecologists estimate that agricultural and urban development have destroyed more than 90% of this habitat. Only 36 sites have been recorded in this zone, of which 5 have been destroyed and 5 have been damaged within the last 11 years. Currently only 14 sites are being managed to preserve this species within its total range.

Seventy-eight percent of all the known sites (163 acres of existing suitable habitat) are within the boundaries of the Redding Resource Area. The major actions that would affect this species include land acquisitions, and proposed BLM land disposals containing this species or its' suitable habitat.

The acquisition and retention of lands containing populations would be a positive impact, assuring the existence and viability of orcutt populations through protective policies, laws and actions. Disposals of

similar lands, a possibility under one of the land-use management alternatives, would likely create minimal impacts because of the protective covenants that would have to be attached to these habitats before disposal could occur.

How Impacts Are Measured

Impacts to slender orcutt grass will be quantified using the number of affected sites (populations) as one unit of measurement, and acres of suitable habitat affected as another. Suitable habitat consists of vernal pools which are known to support this species, yet not all vernal pools have the necessary inundation to dry period ratios to support slender orcutt grass. By itself, impacts quantified in terms of suitable acres would not portray an accurate assessment as to the viability of the affected populations without factoring in number of sites. Because each site is diverse, the greater the number of sites, the greater the likelihood that the total orcutt population will be sustainable.

Since *Orcuttia tenuis* is a State listed endangered species and may become listed as a Federal endangered or threatened species, any detrimental impact would be considered as unacceptable and be a significant negative impact. Having no substantial data on what constitutes a viable population, for the sake of this assessment, any increase in the number of sites and amount of suitable habitat under public protection that is 10% or greater, would be considered a significant positive impact.

What Specific Items Are Assumed To Aid The Analysis

The following assumptions were used to aid analysis: BLM permitted activities will have no negative effects due to existing protective policies and laws; the statistical data used from the California Natural Diversity Data Base (12/10/89 revision) is current and; populations on private lands, excepting those managed by The Nature Conservancy, have the potential to be damaged or destroyed.

Furthermore, this analysis is not pertinent over the entire Redding Resource Area because four of the management areas contain no slender orcutt grass on public or private lands (Scott Valley, Klamath, Yolla Bolly and Trinity). Two additional management areas have populations only on private lands which would not be affected by any land-use management alternative (Shas-

ta and Ishi). Therefore, only the alternatives pertaining to the Sacramento Management Area will be analyzed.

The definition of a vernal pool used within the analysis is: a shallow depression underlain by an impermeable layer consisting usually of claypan or hardpan, on which winter rainfall accumulates, forming a pool of standing water that remains for several weeks or months into the spring when it evaporates. These ephemeral pools support a specially adapted flora found neither in true marshes nor in dryland habitats, which include some of the state's rarest and most unusual plants.

IMPACTS TO SPOTTED OWL

What The Impact Topic Will Assess

This significant impact topic will assess the effect various land-use management alternatives will have upon known northern spotted owls (*Strix occidentalis caurina*) located on BLM administered lands and certain key areas containing habitat suitable to the northern spotted owl. BLM key areas are currently occupied by spotted owls, are adjacent to areas that do, or provide linkages to areas that could support substantial spotted owl populations. Certain land-use management alternatives could degrade or enhance the amount of habitat located within these key areas directly through management actions (ie. timber harvest), or indirectly through land tenure practices (loss or gain of public lands).

Potentially, proposals that transfer BLM land from federal ownership can be most detrimental to future owl conservation. This is especially true prior to completing inventories and a comprehensive plan to determine how owl habitat should be managed in relation to adjacent habitat within private ownership. Once habitat is transferred to the private sector, comprehensive management options are diminished.

In contrast, land transfers to the U.S. Forest Service for the express purpose of managing and protecting owl habitat in accord with currently managed habitat within their jurisdiction is a beneficial action. Similarly, where large blocks of owl habitat can be acquired and managed by BLM, habitat tracking is eased and comprehensive plans can be prepared.

How The Impacts Are Measured

Direct and indirect impacts are quantified in terms of the number of spotted owls, and the amount of spotted owl habitat (as defined below) affected within key areas

(as described below). Any action that could cause the forested landscape within these key areas to lose its' habitat characteristics would be considered a significant adverse action having negative impacts. Similarly, any action that could cause the forested landscape to sustain and/or improve its' habitat characteristics would be considered a significant beneficial action having positive impacts.

Cumulative impacts are quantified in terms of the number of spotted owls, and the amount of Resource Area wide, spotted owl habitat affected due to BLM actions, BLM land tenure policies, as well as other Federal, state and private actions or policies.

Because all discretionary activities authorized under an approved RMP that may adversely impact the spotted owl must undergo consultation with the U.S. Fish and Wildlife Service (USFWS) as required under Section 7 of the Endangered Species Act, impacts identified within the analysis represent the worst case situation.

What Specific Items Are Assumed To Aid The Analysis

Information from the report, A Conservation Strategy for the Northern Spotted Owl (Thomas, et al., 1990) is used to estimate direct, indirect and cumulative impacts. Approximately 173 owl pairs and 255,000 acres of owl habitat are present within the 36 Habitat Conservation Areas located within the boundary of the Redding Resource Area. It is assumed for analysis purposes that the U.S. Forest Service will manage the Habitat Conservation Areas in accord with the recommendations made within the Conservation Strategy. It is estimated that an additional 395 to 495 thousand acres of habitat is present within the Redding Resource Area on BLM, U.S. Forest Service, National Park Service, state and private lands outside the mentioned Habitat Conservation Areas.

For purposes of the analysis, all habitat identified within the below mentioned Key Areas is assumed to be usable and significant. This may not be true in reality because several factors such as habitat continuity, species composition, spatial relationship and fragmentation are not included in the analysis. As such, the analysis represents the worst case situation.

Although exact definitions of suitable habitat may vary and the USFWS is in the process of designating "critical habitat", recent studies within the Conservation Strategy have suggested the following: "Habitats selected by

northern spotted owls typically exhibit moderate to high canopy closure; a multilayered, multispecies canopy dominated by large trees with large cavities, broken tops, and other indications of decadence; numerous large snags; heavy accumulations of logs and other woody debris on the forest floor; and considerable open space within and beneath the canopy".

Habitat addressed within this analysis has been calculated through aerial photograph interpretation. Although some "ground truthing" has been performed, less than 10 percent of the habitat identified has been surveyed on the ground. As such, habitat acreage identified is subject to the accuracy of the photo interpretation. Habitat assessed is invariant of forest type (ie. species composition) and has been divided into three classes for the analysis, having the following characteristics:

SUPERIOR SPOTTED OWL HABITAT

1. Multi-layered, multi-species canopy.
2. Overstory conifers: 160 feet in height.
Understory : 40 to 60 feet in height.
3. Canopy cover (closure) greater than 60 percent.
4. Diameter at breast height (DBH) 36 inches or more, more than 9 trees per acre.
5. Standing dead trees (Snags), more than 5 trees per acre greater than 15 inches DBH and 17 feet in height.
6. Down logs, more than 1/2 per acre greater than 17 inches in diameter and 13 feet in length.
7. Down woody debris, more than 5 tons per acre.

SUITABLE SPOTTED OWL HABITAT

1. Single storied or multi-layered, multi-species canopy.
2. Overstory conifers: 130 feet in height.
Understory : 40 to 130 feet in height.
3. Canopy cover between 40 to 60 percent.
4. DBH 36 inches, more than 6 trees per acre.
5. Snags, more than 5 trees per acre greater than 15 inches DBH and 13 feet in height.
6. Down logs, more than 1/2 per acre greater than 15 inches diameter and 13 feet in length.

7. Down woody debris, more than 2 tons per acre.

MARGINAL SPOTTED OWL HABITAT

Although marginal habitat may or may not be used by spotted owls for nesting, its value may be of more significance in regards to the foraging and roosting needs of the bird. As such, the snag component may be lacking.

1. Single story canopy.
2. Overstory conifers: lacking
Main canopy : 40 to 130 feet in height.
3. Canopy cover 40 percent.
4. DBH 18 to 35 inches, with a majority in the 18 to 24 inch size class.
5. Snags, more than 5 stems per acre greater than 15 inches DBH and 13 feet in height.
6. Down logs, 1/2 stem per acre at 15 inches in diameter at 13 feet in length.
7. Down woody debris, greater than 4 tons per acre.

KEY AREA DESCRIPTION

The following seven Key Areas will serve as a focal point in assessing impacts to spotted owls. Two of these Key Areas (Crater Creek and Eastman Gulch) have been identified, in part or in whole, as Owl Habitat Areas to be managed as described within Chapter 3 (Management Guidance Common to All Alternatives - Spotted Owl). The Key Areas and a brief description of the quantity of habitat follow:

1. Crater Creek: (T.42N., R.7W., Section 35)

Located within the Scott Valley Management Area, this key area totaling 210 acres currently contains approximately 170 acres of suitable spotted owl habitat. The BLM has designated this as an Owl Habitat Area (OHA) to be managed in accord with the U.S. Forest Service's Habitat Conservation Area, that contains one pair of spotted owls and encompasses it.

2. Eastman Gulch: (T.33N., R.8W., Sections 2,3,10,11,14,15)

Located within the Trinity Management Area, this key area currently contains approximately 25 acres of supe-

rior habitat, 768 acres of suitable habitat, 22 acres of marginal habitat, and one known spotted owl pair. The BLM has designated 1,100 acres within this area, containing 549 acres of suitable habitat, as an OHA to be managed in accord with the U.S. Forest Service Habitat Conservation Area.

3. Quartz Hill: (T.43N., R.10W., Sections 1,11,12,13 T.43N., R.9W., Sections 7, 12)

Located within the Scott Valley Management Area, this key area currently contains approximately 170 acres of suitable habitat, 15 acres of marginal habitat and a single spotted owl located during surveys conducted in 1988. A pair of spotted owls was reported in the area in the early 1980's. This area is considered important because it could provide continuity to important habitat located on U.S. Forest Service lands located to the north and south.

4. Rich Gulch (T.34N., R.11W., Sections 3, 4, 9, 10, 14,15, 21, 22, 23, 26, 27, 28)

Located within the Trinity Management Area, this key area currently contains approximately 1,199 acres of suitable habitat, 593 acres of marginal habitat and a single male spotted owl located during surveys conducted in 1989 and 1990. This area is bordered to the east, west and north by the Trinity Alps Wilderness. A substantial amount of habitat is located to the west within a U.S. Forest Service Habitat Conservation Area.

5. Scott Valley Block: (Public land within T.41N., R.8W.; T.42N., R.8W.; T.42N., R.7W.; T.41N., R.7W.)

Located within the Scott Valley Management Area, these non contiguous parcels contain approximately 24 acres of superior habitat, 1,793 acres of suitable habitat and 19 acres of marginal habitat. These parcels are considered important because they could provide continuity to substantial amounts of habitat located to southeast and northwest.

6. Tunnel Ridge: (T.34N., R.10W., Sections 8, 17, 18, 19, 20, 29, 30, 31, 32)

Located within the Trinity Management Area, this area (included within the Trinity Alps Wilderness) contains approximately 251 acres of superior habitat, 573 acres of suitable habitat, 314 acres of marginal habitat, and one known spotted owl.

7. Willow Creek: (T.46N., R.4W., Section 36)

Located within the Klamath Management Area, this area currently contains approximately 150 acres of suitable habitat. This area is encompassed by a U.S. Forest Service Habitat Conservation Area that is known to support 6 pair of spotted owls.

IMPACTS TO WATERFOWL/WETLAND HABITAT

What the Impact Topic Will Assess

This significant impact topic assesses how the various land-use management alternatives of the RMP may affect waterfowl habitat ("wetlands"-as defined below) and the Central Valley waterfowl populations dependent upon the habitat. Activities that affect waterfowl nesting success include unregulated grazing and off-road vehicle use within the uplands adjacent to wetlands. These activities often damage or destroy the amount of nesting cover and can cause an increase in predation. Certain land acquisitions and management actions within the Klamath and Sacramento River Management Areas could allow BLM to improve wintering habitat conditions and influence waterfowl nesting success.

Approximately 90% of the wintering wetlands in the Central Valley of California have been converted to other uses. Although the parcels identified for acquisition in the Sacramento River Management Area are not considered a part of the Central Valley, the Sacramento River is used heavily by wintering waterfowl and by spring migrating waterfowl. Because waterfowl are migratory, any actions taken outside the Central Valley could affect waterfowl populations in the Central Valley. Acquisition of any additional wintering areas, regardless of size, could result in a significant beneficial impact to wintering waterfowl.

How the Impacts Are Measured

Impacts to waterfowl are measured using three indicators: 1) estimated number of habitat acres affected; 2) estimated percent increase of wintering waterfowl in the Sacramento River Management Area and; 3) estimated percent increase of nesting success in the Shasta Valley wetlands within the Klamath Management Area. Any action that could cause an improvement in wetland habitat conditions would be considered a significant beneficial action having positive impacts. Similarly, any action that could cause degradation of wetland habitat

would be considered a significant detrimental action having negative impacts.

What Specific Items Are Assumed To Aid The Analysis

The Klamath Management Area and Sacramento River Management Area have private lands that contain significant wetlands or have the potential for development of new wetlands. These include the Shasta Valley wetlands and Grass Lake within the Klamath Management Area, in which 16,000 acres have been identified for acquisition under three land-use management alternatives. These 16,000 acres of interspersed wetlands and uplands are one of the most important duck producing areas in California. In the Sacramento River Management Area, several parcels have been identified for acquisition that have potential for wetland development; a few of these parcels contain existing wetlands. Wetlands in the Sacramento River Management Area are used primarily by wintering waterfowl,(ducks, geese, swans, and many species of shore birds including greater sandhill cranes).

Current management practices on private lands within the Klamath Management Area include agriculture, livestock grazing and beef production through feed lots. These management practices are generally considered to be detrimental to the health of wetlands and the surrounding uplands, because they reduce the suitability of these areas as waterfowl nesting habitat. Studies have shown that duck nesting success in grazed uplands is significantly lower than in un-grazed uplands (Kirsch, Duebbert, & Kruse, 1978). Should BLM be successful in obtaining the Shasta Valley wetlands and Grass Lake, beneficial impacts could occur to nesting waterfowl. If additional lands are acquired within the Sacramento River Management Area, a potential exists for the construction of new wetlands. Current management practices on adjoining BLM parcels, are improving winter and spring forage for all types of waterfowl.

For the purpose of this analysis, wetland habitat is defined as permanently wet or intermittently flooded areas where the water table is at, near, or above the soil surface for extended intervals, where hydric wet soil conditions are normally exhibited, and where water depths are less than 2 meters. Vegetation is generally comprised of water loving forms (cattails, bulrushes, etc.). Waterfowl addressed within the analysis include ducks, geese, swans, sandhill cranes and other birds generally classified as shore birds.

ENVIRONMENTAL CONSEQUENCES (IMPACTS)

This section will describe the predicted impacts expected to occur through implementation of the various land-use management alternatives. Predicted impacts identified here would be created directly through various BLM management actions, indirectly through BLM land tenure policies, and cumulatively through foreseeable development resulting from BLM actions, BLM land tenure policies, as well as other Federal, state and private actions or policies. Impacts are discussed in narrative form by each land-use management alternative. A comparative summary of the environmental consequences is presented within Chapter 3, Table 3-2.

NO ACTION ALTERNATIVE

Impacts to Anadromous Salmonid Habitat

Under this land-use management alternative, important acquisitions of key habitat areas would occur on the Trinity River, Sacramento River, Deer Creek, and Shasta Rivers. Small acquisitions on the Klamath River and some spot protective land-use allocations on some streams also contribute to a long-term maintenance of habitat in many streams. The majority of key areas, however, have no acquisition proposals or recommended land-use allocations designed to protect the habitat. The trend for these key habitat areas is downward. BLM presently administers 44 miles of key habitat areas. BLM proposes to acquire 32 miles of additional key habitat and would consider disposal via exchange of 4 miles. Overall, 72 miles (or less than one-half of the total of all key habitat areas) would be managed by BLM at the end of the planning horizon of this RMP.

BLM approved actions when viewed cumulatively with other non-BLM actions would have negligible adverse or beneficial consequences within the major river systems incorporating these key areas. In the Klamath River, BLM administered habitat represents less than 1% of the best habitat below Iron Gate Dam. Recovery of fish populations will depend on water quality and quantity management well beyond the control of BLM. Within the Sacramento River below Keswick and Whiskeytown reservoirs, BLM administered habitat would represent perhaps 1% to 2% of the total key habitat of the river and major tributaries still available to anadromous fisheries. BLM also has limited authority within the Sacramento River since it is classified as a navigable waterway. Therefore, BLM actions would have no overall conse-

quence to the quality and condition of the dependent anadromous fisheries. The quality of the anadromous fisheries in the Shasta River could improve since the majority of important Chinook spawning habitat would be protected. Upstream water quality, however, would continue to limit improvement in the fisheries. Therefore, BLM actions could have little beneficial consequences unless water quality is stabilized and improved by others. The quality of the anadromous fisheries in the Trinity River is improving. The BLM administered key habitat, however, is strategic to fish access to adjoining habitat. BLM permitted actions, especially mineral development, could reasonably constrain the continued recovery of the habitat within the upper reaches of this river system.

The consequences for each specific key area (listed alphabetically) under this land-use management alternative includes:

Battle Creek:

The existing 5 miles of public ownership would remain in BLM administration. Motorized vehicles are limited to designated roads. Leasable mineral development is permissible with no surface occupancy. BLM actions would be inconsequential.

Canyon Creek:

The existing 3 miles of public ownership would remain in BLM administration and be managed as a "Recreational" component of the National Wild and Scenic Rivers System in concert with a U.S. Forest Service proposal. Conditions would remain stable for this stream.

Clear Creek:

The 1/2 mile of public ownership below Placer Street would be available for exchange. The 1/2 mile of public ownership in the upper canyon would be retained. Protection of the scenic quality and designated roads for motorized vehicles would maintain the condition of the public owned segment. The overall trend would remain downward on this stream.

Cottonwood Creek:

The 1/2 mile of public ownership would remain in BLM administration. Leasable mineral development is permissible with no surface occupancy. BLM actions would be inconsequential.

Deadwood Creek:

The one mile of existing public ownership would be available for exchange. BLM actions would be inconsequential.

Deer Creek:

Eight miles of this stream would be purchased and not be open to motorized vehicle use. This action would ensure the long-term protection of this entire segment of this regionally important stream.

Dry Creek:

BLM would continue to administer the 1/2 mile of existing public ownership. Condition of this key area is good and would remain stable.

Indian Creek:

The one-half mile of existing public ownership would be available for exchange. BLM actions would be inconsequential.

Klamath River:

Two minor mineral withdrawals would be continued and 1 1/2 miles of river would be acquired bringing total public ownership to two miles. These actions would have a minor stabilizing consequence.

Mill Creek:

The 1/2 mile of public ownership would be available for exchange. Given the projected land-use along Mill Creek, disposal would have no impact on this important key area.

North Fork Trinity River:

The one mile of public ownership would remain in BLM administration. The condition of this habitat would remain stable although permitted mining activity could degrade this segment of stream.

Reading Creek:

The 1/2 mile of public ownership would be available for exchange. BLM actions would be inconsequential.

Rush Creek:

The 1/4 mile of public ownership would be available for exchange. BLM actions would be inconsequential.

Sacramento River:

Twelve additional miles of this key area would be acquired. The combined 19 miles of this river would be available for leasable mineral development with no surface occupancy and motorized vehicle use would be restricted. Condition of the habitat would remain stable with a chance for some improvement, especially with rearing channels.

Shasta River:

Up to 3 1/2 miles would be acquired. The total of seven miles would have protective rights-of-way placed on major habitat improvement facilities. The condition of habitat would continue to improve.

Trinity River:

Seven miles of this river would be acquired. The total of 28 miles would be maintained. Minor withdrawals would continue at Douglas City and Junction City campgrounds and protective rights-of-ways would be used at improved public facilities. Habitat improvement projects would continue. Mineral entry, however, would be allowed and constrain opportunities for improvement.

Impacts To Archaeological Resources

Impacts to archaeological resources would generally follow those to be discussed under the Proposed Action Alternative. Differences would largely result from variation in the disposal and acquisition patterns. Types of impacts would remain the same. There would be less land (and site) acquisition in the archaeological resource rich Trinity River, Forks of Butte, Battle Creek, Deadwood/French Gulch, and Shasta River zones, and no acquisition in the potentially rich Shasta Valley and Clear Creek areas. While it is very difficult to determine what land tenure actions would be most likely in this land-use management alternative over the duration of the plan, probably somewhere in the vicinity of 125 to 500 sites would be acquired while disposal activities could result in the loss of 75 to 350 sites, most not of National Register quality. The pluses and minuses of these actions are discussed in the Proposed Action Alternative.

Negative impacts would continue from fuelwood cutting and associated vehicular use, cattle trampling, looting, collecting, erosion/deposition, and mining, especially assessment work. A dozen or two sites might be affected in any one year. Camping along the Klamath River could lead to site damage at several locations, as in the other alternatives. Deer winter herd management at Horseshoe Ranch would be the same as the Proposed Action Alternative, with perhaps a dozen sites damaged over the length of the plan. Increased access in areas such as along the Sacramento River and the Gene Chappie/Shasta Off-Highway Vehicle Area could lead to looting, vehicular damage, and other negative impacts at up to 25 sites, if careful attention is not implemented.

Protection-related activities for the watershed and viewshed around Lake Oroville could enhance the preservation of 5-25 or more sites of various types. Additional impacts for this, and all land-use management alternatives are displayed within Table 4-1.

Impacts to Deer Winter Range

Hayfork and Weaverville Deer Herd Range

This land-use management alternative lists several actions that could influence deer winter range management and deer populations over the 15 year scope of this RMP. However, these actions should not result in any significant impacts to the deer winter range or deer populations. These include land exchanges, sales and land transfers authorized under the Recreation and Public Purposes Act involving less than 180 acres in developed areas. It is felt that these areas have already been impacted to the degree that they are no longer suitable as deer winter range, although they may support a limited number of animals. These also include timber harvest operations which have impacts mitigated through compliance with the California Forest Practices Act, the California Environmental Quality Act, or the National Environmental Policy Act and generally provide some beneficial impacts to the winter range. Finally, these include deer winter range improvement projects, which are limited in size and provide only insignificant forage increases within the winter range.

Whiskeytown Deer Herd Range

There is one deer herd using the Shasta Management Area, the Whiskey Town Deer Herd. The deer winter range for this herd consist of approximately 52,500 acres, of which 17,700 are administered by BLM. There

would not be any significant change in the amount of deer habitat, or the deer population under the No Action Alternative. Forage allocations and logging operation impacts were identified and mitigated in the Redding Grazing Environmental Impact Statement and the Final Timber Management Plan and Environmental Assessment for Sustained Yield Unit 15. Mitigating measures were also identified for the Gene Chappie/Shasta Off Highway Vehicle Area in the environmental analysis completed for that project.

Impacts To Scenic Quality

Scenic quality would be safeguarded within the Trinity River Corridor, along the Sacramento River, the upper Klamath River between the Oregon border and Copco, within Beegum Gorge, along Muletown Road near Redding within the viewsheds of the Shasta Dam Scenic Drive, the Forks of Butte Creek Recreation Area, and the Whiskeytown Unit of the National Recreation Area.

Over the remainder of the Redding Resource Area, scenic quality protection would not be prescribed and actions which could degrade scenic quality could occur. The most noticeable effects would probably occur on public lands transferred from public ownership near towns, where new land-uses or development might contrast strongly with the characteristic landscape or where the undeveloped public land provided the surrounding area's only visual relief from urban residential or industrial development. The scenic quality of these areas would continue to degrade irrespective of BLM actions. Moreover, the existing scenic quality rating of public lands is either "C" or in some cases "B" within these areas. Therefore, BLM permitted actions are inconsequential when viewed cumulatively with the actions of others.

Impacts To Slender Orcutt Grass

This land-use management alternative would cause no degradation to the six BLM administered sites containing 7.6 acres of suitable habitat acres. The three populations (sites) located on private lands which contain 106.2 acres, could be degraded and destroyed due to overgrazing and urban development. Currently 1.2 acres of these lands are being degraded by over-grazing. Although protection of BLM administered populations may safeguard against the extinction of this species, the overall trend for the species would be downward due to the actions of others. Therefore, BLM actions would have minimal beneficial consequences for the species when viewed cumulatively.

TABLE 4-1**OVERALL POTENTIAL NEGATIVE IMPACTS TO BLM ARCHAEOLOGICAL RESOURCES**

MGMT. AREA	IMPACT TYPE	PROP. ACTION	NO ACTION	ADMIN. ADJUST.	ENHANCE NATURAL	RES. USE W/ NAT.	RES. USE
SCOTT VALLEY	I	L	L	L	L	L	L
	II	L	L	L	L	L	L
	III	L	L	L	L	L	L
	IV	M	L	M	L	L	L
KLAMATH	I	L	L	L	L	L	L
	II	L	L	L	L	L	L
	III	L	L	L	L	L	L
	IV	M	M	M	M	M	M
TRINITY	I	L	L	L	L	L	L
	II	M	M	M	M	M	M
	III	M	L	M	L	M	H
	IV	L	M	M	L	L	M
SHASTA	I	L	L	L	L	L	L
	II	M	M	M	M	M	M
	III	M	M	M	M	M	H
	IV	M	M	M	M	M	M
ISHI	I	L	L	L	L	L	L
	II	M	M	M	M	M	M
	III	M	M	M	M	M	H
	IV	L	M	M	L	L	M
YOLLA BOLLY	I	L	L	L	L	L	L
	II	L	L	L	L	L	L
	III	L	L	L	L	L	L
	IV	L	L	L	L	L	L
SACRAMENTO	I	L	L	L	L	L	-
	II	L	L	L	L	L	-
	III	L	M	M	L	M	-
	IV	L	L	L	L	L	-

I = FORESTRY RELATED IMPACTS

II = MINERAL DEVELOPMENT RELATED IMPACTS

III = RECREATIONAL USE RELATED IMPACTS

IV = LANDS USE RELATED IMPACTS (Primarily disposal and acquisition)

L = LOW (Little or no impacts)

M = MEDIUM (Potentially moderate adverse effects on 1 to 5 sites per year)

H = HIGH (Potentially adverse effects on more than 5 sites per year)

Impacts To Spotted Owl

Coupled with other Federal, state, and private actions, the cumulative impact of this alternative would be insignificant to the Resource Area spotted owl population. Of the 173 spotted owl pairs estimated to be present within the Resource Areas' Habitat Conservation Areas, one pair would likely have lowered reproductive success, and individual owl movement into and from the Habitat Conservation Areas would be slightly impeded. Of the 395,000 to 495,000 acres of habitat located outside the Habitat Conservation Areas, but within the Redding Resource Area boundary, 4,798 acres of habitat (superior, suitable and marginal) within the BLM key areas would be moderately degraded, and 1,288 acres would be protected through Wilderness management and owl management. All actions that would adversely affect the spotted owl (including habitat) would require consultation with the U.S. Fish and Wildlife Service. A summary of Key Area impacts follow:

Crater Creek:

This area would be available for exchange or sale; while in the interim, BLM management actions would be evaluated on an individual basis to determine compliance with the Endangered Species Act (ESA). Some degradation would likely occur to the 170 acres of suitable habitat if the parcel was transferred to the private sector. No impacts would occur to the pair of spotted owls located within the Habitat Conservation Area (HCA) that encompasses this key area due to the abundance of habitat protected within the HCA.

Eastman Gulch:

This area would be available for exchange or sale; while in the interim, BLM management actions would be evaluated on an individual basis to determine compliance with the Endangered Species Act (ESA). Some degradation would likely occur to the 25 acres of superior, 768 acres of suitable and 22 acres of marginal habitat if these parcels were transferred to the private sector causing the single spotted owl pair to have limited breeding success.

Quartz Hill:

This area would be available for exchange or sale; while in the interim, multiple use management subject to compliance with the Endangered Species Act (ESA) would be emphasized. If private industry were to obtain these parcels, degradation could occur to the remaining 170

acres of suitable and 15 acres of marginal habitat. The single spotted owl would likely be forced to migrate from the area due to the impacts that past timber harvesting has had upon habitat located on BLM and private lands.

Rich Gulch:

This area would be available for exchange or sale; while in the interim, multiple use management subject to compliance with the ESA would be emphasized. While under BLM jurisdiction, timber harvests would likely alter the currently 1,199 acres of suitable, and 593 acres of marginal habitat. Because this area contains only a limited amount of spotted owl habitat which could be degraded through timber harvesting, the single male spotted owl would likely be unsuccessful in attracting a mate into this area.

Scott Valley Block:

This area would be available for exchange or sale; while in the interim, multiple-use management subject to compliance with the ESA would be emphasized. While under BLM jurisdiction, timber harvests would likely alter the 24 acres of superior, 1,793 acres of suitable and 19 acres of marginal habitat. If these noncontiguous parcels were transferred to the private sector, comprehensive management of the area would be foregone and individual owl movement between Habitat Conservation Areas would be slightly impeded through subsequent piecemeal timber harvests. These parcels may provide significant continuity to substantial habitat located to the southeast and northwest.

Tunnel Ridge:

This area, designated as Wilderness, would be managed by BLM in accord with the U.S. Forest Service. No degradation to the 251 acres of superior, 573 acres of suitable and 314 acres of marginal habitat would be expected. The single spotted owl within the key area would likely attract a mate because of the abundance of habitat.

Willow Creek:

This area would be retained by BLM and managed to preserve owl habitat in accord with the U.S. Forest Service Habitat Conservation Area that it adjoins. No degradation to the 150 acres of suitable habitat would be expected. The six pairs of spotted owls within the HCA would not be impacted.

Impacts to waterfowl/Wetland Habitat

Klamath Management Area

Currently the Shasta Valley Wetlands and Grass Lake areas are being used for agriculture, grazing of domestic livestock, and for large scale cattle feed lots. These types of use are generally not compatible with optimum production of wildlife populations, although at times these types of uses can be manipulated to benefit or enhance various types of wildlife habitat. Continued uses of these types in and around wetlands will continue to decrease water quality, vegetative vigor, density and composition.

Sacramento River Management Area

Under this land-use management alternative, projects that have been developed to date within the Sacramento River Management Area should increase waterfowl use by 40 to 60 percent during the winter and early spring months. wetlands have been increased from 35 acres to 80 acres in the Paynes Creek Habitat Management Plan Area. These impacts, being significant on a local level but insignificant on a regional level, will contribute to increasing wintering habitat in California and offer some minor benefits to waterfowl migrating out the Central Valley.

ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

Impacts to Anadromous Salmonid Habitat

Under this land-use management alternative, important purchases of key habitat areas would occur on the Trinity River, Sacramento River, Shasta River and Klamath River. A portion of Canyon Creek would be transferred to the U.S. Forest Service. Minor public ownership in several key areas would be available for exchange.

BLM presently administers 44 miles within key habitat areas. BLM would acquire 37 1/2 miles of additional key habitat and would consider disposal via exchange of 8 miles of key areas. Overall, 73 1/2 miles (or less than one-half of the total of all key habitat areas) would be managed by BLM at the end of the planning horizon of this RMP.

BLM approved actions when viewed cumulatively with other non-BLM actions would have negligible adverse

or beneficial consequences within the Klamath, Sacramento, and Shasta river systems incorporating any below key area. The limited amount of BLM administered habitat and the regulation of water quality and quantity by others within these river systems relegate BLM approved actions to an inconsequential level. In contrast, protection of key habitat in the Trinity River system will complement the overall effort to restore the anadromous fisheries.

The consequences for each specific key area under this land-use management alternative includes:

Battle Creek:

Five miles of existing public ownership would be available for disposal via exchange. All of this mileage is located above the Coleman Hatchery. Loss of public ownership would somewhat limit opportunities to maintain or improve the overall condition of the stream for upstream spawners.

Canyon Creek:

The existing three miles of public ownership would remain in Federal management. The U.S. Forest Service would manage this segment as a "Recreational" component of the National Wild and Scenic Rivers System. The condition of this key habitat area would remain stable.

Clear Creek:

The 1/2 mile of public ownership above Placer Street bridge would remain in Federal management. The 1/2 mile of public ownership below Placer Street would be available for exchange. The trend would remain downward on this stream.

Cottonwood Creek:

The 1/2 mile of public ownership would remain in the management of some public or conservation organization. BLM actions in this key area would be inconsequential.

Deer Creek:

No acquisitions would be made within the eight-mile key habitat area. Hydroelectric development is doubtful and projected private land-uses would not significantly affect the condition of the habitat.

Dry Creek:

BLM would continue to administer the 1/2 mile of existing public ownership. Condition of this key area is good and would remain stable.

Indian Creek:

The one-half mile of existing public ownership within this key area would be available for exchange. BLM actions would be inconsequential.

Klamath River:

The entire 6 mile key area would be placed in public ownership with restrictions on grazing, mineral development, and motorized vehicle use. These actions would improve the long-term condition of this key area.

Mill Creek:

The entire 1/2 mile of public ownership would be administered by The Nature Conservancy. This action would have little affect on the condition of this key area.

North Fork Trinity River:

The one mile of public ownership would remain in BLM administration. The withdrawal of this segment from mineral entry would ensure the long-term stability of the habitat.

Reading Creek:

The one-half mile of existing public ownership within this key area would be available for exchange. BLM actions would be inconsequential.

Rush Creek:

The one-quarter mile of existing public ownership within this key area would be available for exchange. BLM actions would be inconsequential.

Sacramento River:

The consequences of this land-use management alternative are identical to the No Action Alternative.

Shasta River:

Three and one-half miles of this stream would be acquired. Restrictions on grazing, mineral development

and motorized vehicle use will significantly improve the probability of long-term habitat protection.

Trinity River:

Under this alternative 34 1/2 miles on one or both sides of this important river would be placed in public ownership. Restrictions on mineral development, grazing, motorized vehicle use, and forestry actions would significantly improve the potential to protect and improve the existing quality of this critical key habitat area. Acquisition of 15 1/2 miles of this river would greatly facilitate this effort.

Impacts To Archaeological Resources

See the Proposed Action Alternative for discussion of impacts regarding land acquisitions and disposal and deer herd management in the Horseshoe Ranch area. This land-use management alternative would tend to be imbalanced toward disposal of archaeological sites, although important sites would be potentially acquired along the Klamath, Sacramento, and Trinity rivers, including the historic gold mining community of Helena and large riverine Indian villages. There may be up to 200 sites involved, 25% or more possibly eligible for the National Register of Historic Places largely within districts. Transfer of the Cedar Gulch Indian Cemetery could lead to closer scrutiny and protection. Transfer of lands to the State of California in the Lake Oroville area has the potential for added site protection through closer monitoring and other management. Currently, however, staffs are being cut and looting remains a big concern on all midden sites in this area.

Acquisitions in the Gene Chappie/Shasta Off-Highway Vehicle Area may lead to an increase in historic sites in BLM administration, perhaps 50 or more sites. However, better access may lead to illegal collection and vandalism to an unknown number of sites but no doubt less than 25-50. Disposal may result in the transfer of somewhere in the vicinity of 100-700 sites, most of which probably are not eligible for inclusion in the National Register of Historic Places. Potential impacts from such an action have been previously discussed.

Impacts To Deer Winter Range*Hayfork and Weaverville Deer Herd Winter Range*

Under this alternative most of the deer winter range in both the Hayfork Deer Herd Unit and the Weaverville unit would be available for exchange. The transfer of 20 to

25 thousand acres of deer winter range to private interest could occur which would result in a loss of 18 to 23 percent of the existing deer winter range and probably a corresponding loss in deer populations levels.

Whiskeytown Deer Herd Winter Range

There would not be any impacts, adverse or beneficial under this alternative.

Impacts To Scenic Quality

Scenic quality would be maintained on public lands along the Klamath, Shasta, Trinity and Sacramento Rivers, as well as public lands within 1/4 mile of streams eligible for inclusion in the Wild and Scenic Rivers System. Scenic quality would also be protected on public lands within the viewshed of Forks of Butte Creek Recreation Area, Whiskeytown Lake, and Shasta Dam Scenic Drive. Scenic quality would not be protected on the remainder of the area's public lands. Degradation to scenic quality would occur wherever these lands were converted to uses which would create contrasts to the characteristic landscape. Scenic quality degradation would be gradual in most places. Background scenery adjoining the river corridors noted above could reasonably be degraded. Scenic quality degradation would occur irrespective of BLM approved actions. Transfer of public lands to the private sector, coupled with BLM management actions, would contribute and perhaps hasten the cumulative scenic quality degradation in areas near the towns of Redding and Weaverville.

Impacts To Slender Orcutt Grass

Impacts would be the same as those within the No Action Alternative except that some parcels containing populations could be disposed of to acquire high value resource lands elsewhere. Although this has a low potential of occurring, impacts to BLM's 6 sites containing 7.6 acres would be minimal due to the protective covenants that would be attached to these sites. Even with protective covenants, the trend for the species would continue downward due to the actions of others. Therefore, the actions of BLM would have minimal beneficial consequences for Orcuttia tenuis when viewed cumulatively.

Impacts To Spotted Owl

Coupled with other Federal, state, and private actions, the cumulative impact of this land-use management alternative would be insignificant to the Resource Area

spotted owl population. One of the 173 owl pairs located within the Resource Area's Habitat Conservation Areas would have a greater chance at breeding successfully, although individual owl movement into and from the Habitat Conservation Areas would be slightly impeded. Of the 395,000 to 495,000 acres of habitat located outside Habitat Conservation Areas, but within the Redding Resource Area boundary 4,079 acres of habitat (superior, suitable and marginal) within the BLM key areas would be moderately degraded, and 2,007 acres would be protected through Wilderness management and Owl Habitat Area designation. All actions that would adversely affect the spotted owl (including habitat) would require consultation with the U.S. Fish and Wildlife Service. A summary of Key Area impacts follow:

Crater Creek:

This area would be designated as an Owl Habitat Area (OHA) and would be available for exchange or sale provided that it be managed as an OHA. No degradation would be expected to occur to the 170 acres of habitat. If this parcel were exchanged to the private sector, the loss of Federal jurisdiction could reduce the possibility of improving the habitat conditions. No impacts would occur to the pair of spotted owls located within the Habitat Conservation Area that encompasses this key area due to the abundance of habitat protected within the HCA.

Eastman Gulch:

This area would be available for exchange or sale. 549 acres of suitable habitat within this area would be protected with the designation of an Owl Habitat Area, and the remaining habitat (25 acres of superior, 219 acres of suitable and 22 acres of marginal) would be available for timber harvest while in the interim. If this area were transferred to the private sector, timber harvest activities outside the OHA would significantly alter habitat conditions. The single spotted owl pair would likely have greater success at breeding due to habitat protection resulting from OHA designation.

Quartz Hill:

This area would be available for exchange or sale; while in the interim, multiple-use management subject to compliance with the Endangered Species Act (ESA) would be emphasized. If private industry were to obtain these parcels, degradation could occur to the remaining 170 acres of suitable and 15 acres of marginal habitat. The single spotted owl would likely be forced to migrate from

the area due to the impacts that past timber harvesting has had upon habitat located on BLM and private lands.

Rich Gulch:

This area would be available for exchange or sale; while in the interim, multiple-use management subject to compliance with the ESA would be emphasized. These parcels would most likely be acquired by the US Forest Service and managed in accord with their lands that surround the area. While under BLM jurisdiction, timber harvests would likely alter the currently 1,199 acres of suitable, and 593 acres of marginal habitat. If the US Forest Service acquired this area, comprehensive management could aid in future owl conservation planning. Because this area contains only a limited amount spotted owl habitat which could be degraded through timber harvesting, the single spotted owl would likely be unsuccessful in attracting a mate into this area.

Scott Valley Block:

This area would be available for exchange or sale; while in the interim, multiple-use management subject to compliance with the ESA would be emphasized. While under BLM jurisdiction, timber harvests would likely alter the 24 acres of superior, 1,793 acres of suitable and 19 acres of marginal habitat. If these noncontiguous parcels were transferred to the private sector, comprehensive management of the area would be foregone and individual owl movement between Habitat Conservation Areas would be slightly impeded through subsequent piecemeal timber harvests. These parcels may provide significant continuity to substantial habitat located to the southeast and northwest.

Tunnel Ridge:

This area would be transferred to the U.S. Forest Service to be managed as Wilderness. Comprehensive management of this area could be a beneficial action. The single spotted owl within the key area would likely attract a mate because of the abundance of habitat.

Willow Creek:

This area would be designated as an Owl Habitat Area (OHA) and would be transferred to the U.S. Forest Service to be managed as an OHA in accord with their Habitat Conservation Area. The six pairs of spotted owls within the Habitat Conservation Area would not be impacted.

Impacts To Waterfowl/Wetland Habitat

Acquisition of wetlands in the Shasta Valley and Grass Lake were not identified in this land-use management alternative, impacts would be the same as for the No Action Alternative for these two areas.

In the Sacramento River Area, under this alternative beneficial impacts would be the same as those discussed under the No Action Alternative.

ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE

Impacts to Anadromous Salmonid Habitat

Under this land-use management alternative, virtually all key areas would be managed by BLM or some other organization to protect the critical anadromous salmonid habitat. Only the one mile length of the Shasta River between the Interstate 5 bridge and Yreka Creek would not be under public stewardship.

The beneficial consequences of BLM approved actions would be imperceptible within the Klamath and Shasta river systems incorporating any below key area. The relative lack of BLM administered habitat and the actions of others when viewed cumulatively would constrain BLM opportunities to improve the overall quality of these anadromous fisheries. Within the Sacramento River, BLM actions when viewed in concert with the planned actions of others would have a minor stabilizing impact on the anadromous fisheries mainly due to the enhancement of Clear Creek, and to a much lesser degree, Butte Creek. Protection of key habitat in the Trinity River system would complement the overall effort to restore the anadromous fisheries. A summary of key area impacts follow:

Battle Creek:

The entire length (40 miles) of this stream below the Ponderosa Way bridge would be under public ownership. Thirty-five miles of stream would be acquired. These acquisitions, coupled with restrictions on vehicle use, mineral development activities, and grazing could greatly enhance the wild fisheries above Coleman Hatchery. Success in this habitat enhancement would, however, be constrained by existing water control features.

Canyon Creek:

One additional mile of this key habitat area would be acquired to add to the existing three miles in BLM administration. Restrictions on vehicle use, seasonal uses and mineral material sales would improve the potential to maintain the stability of this habitat.

Clear Creek:

All of this important segment (13 miles) would be managed to protect anadromous salmonid habitat. Restrictions on vehicles, mineral development, and the acquisition of 12 miles of this stream would result in a significant improvement in the quality of the existing habitat and contribute noticeably to the production of anadromous salmonids in the Sacramento River.

Cottonwood Creek:

The consequences of this land-use management alternative are identical to the Administrative Adjustment alternative.

Deadwood Creek:

Acquisition of two miles of this stream and the protection afforded under restrictions on vehicle use and mineral development would aid in the enhancement of this spawning stream along the entire three mile segment.

Deer Creek:

The entire eight mile segment would be acquired under this alternative. Restrictions on grazing, vehicle use, mineral development and visual quality would provide long-term protection of this regionally important stream segment.

Dry Creek:

BLM would continue to administer the 1/2 mile of existing public ownership. The condition of this key area is good and would remain stable. Restrictions on vehicle use, grazing and mineral development would ensure the ability of BLM to maintain the habitat quality for spawning steelhead.

Indian Creek:

BLM would acquire the private owned balance (2 1/2 miles) of this 3 mile segment. The condition of this stream would remain stable.

Klamath River:

The consequences of this land-use management alternative are identical to the Administrative Adjustment alternative.

Mill Creek:

The consequences of this land-use management alternative are identical to the Administrative Adjustment alternative.

North Fork Trinity River:

The consequences of this land-use management alternative are identical to the Administrative Adjustment alternative.

Reading Creek:

Two and one-half miles of this key area would be acquired. The entire 3 mile segment would remain in stable condition.

Rush Creek:

Two and three-quarter miles of this key area would be acquired. Protection of this segment from further development would ensure the stability of the existing habitat.

Sacramento River:

Eighteen miles of this river would be acquired. Public ownership of the entire 25 mile segment would ensure the protection of the habitat from the incremental negative impacts of land development. Opportunities for habitat improvement projects, principally rearing channels, would be maximized under this alternative.

Shasta River:

The consequences of this land-use management alternative are identical to the Administrative Adjustment alternative.

Trinity River:

Although the restrictions on mineral development have a slightly larger geographic application, the consequences of this BLM land-use management alternative are essentially identical to the Administrative Adjustment.

Impacts to Archaeological Resources

This land-use management alternative would be the most beneficial to the protection of archaeological resources. Helpful actions include the acquisitions of lands in Quartz Hill, Forks of Butte, Deadwood/French Gulch, and along the Trinity River where many historic mining related sites can be found; and in the areas of Jenny Creek, upper Shasta Valley, Deer Creek, Battle Creek, Clear Creek, the Sacramento and Klamath rivers, and Crystal Hill/Kanaka Hill where a wide range of prehistoric and some historic sites are situated. The positive and negative effects of acquisition are spelled out in previous sections. There would be fewer negative impacts under this alternative with closer management scrutiny of surface-disturbing activities and more attention devoted to resource protection. Potentially 300-500 or more sites could be acquired, over 25% of which might be eligible for inclusion in the National Register of Historical Places. Disposal of public lands in this alternative could lead to some site impacts as previously discussed. Disposal may include perhaps as many as 50 to 250 sites, most of which are probably not eligible for the National Register.

Other actions potentially favorable to archaeological sites include the designation of ACEC's at Swasey Drive, Forks of Butte, Shasta River/Black Mountain, Sacramento River, Deer Creek, and Crystal Hill/Kanaka Hill where closer management attention would favor site preservation, research/conservation, and interpretation. Better site protection would probably result from the transfer of certain locations to other agencies, as with lands near Old Shasta. Transfer of the Mill Creek parcels to The Nature Conservancy will help safeguard the four of five sites there. Public-interpretation focused activities in the Keswick to Sugarloaf Hill area would lead to favorable development of certain historic sites related to the early mining developments of Shasta County. Habitat management activities in the Horseshoe Ranch and Yolla Bolly locations could lead to some impacts to as many as 15-25 sites without careful attention and planning prior to activities undertaken cooperatively. Piecemeal approaches in the past have been found to be defective.

Impacts To Deer Winter Range

Under this alternative there are several land-use management actions that could improve deer winter range conditions and possibly have beneficial impacts to the deer populations. There is one management action for the Hayfork Deer Herd that could result in adverse impacts for that deer herd. These management actions and their impacts on deer ranges are as follows:

Weaverville Deer Herd Winter Range.

With the acquisition of 38,400 acres of undeveloped private lands, closure of designated roads and trails between November 15 through April 15, and allowing timber harvest only when not in conflict with other natural resources, beneficial impacts would occur to both the deer winter range and the deer population. The implementation of these actions would result in improvements in thermal cover and forage areas, and would increase escape cover and lessen disturbance during the winter months. These habitat improvements would result in a healthier deer herd, better fawn production and survival, and an increase in deer population. It would not be unreasonable to expect a 15 to 25 percent increase in the existing deer herd.

Hayfork Deer Herd Winter Range

Because all public lands administered by BLM in the Hayfork Winter Range are available for exchange under this alternative, deer habitat would be reduced by approximately 10 percent (BLM administers approximately 10 percent of the lands in the deer winter range). Deer populations would be expected to decline; however, the extent of the decline would depend upon the quality of habitat lost, the types of uses and sizes of developed parcels, and the land exchanges or sales by other agencies in the area.

If these lands are exchanged to acquire lands in the Weaverville Deer Herd Winter Range, the quantity of habitat would increase once restrictions were placed on logging operations, roads and trails were closed during the winter months and the acquired lands were protected from development during of life of this plan. These changes could result in a 10 percent increase in habitat on BLM administered lands and 3.4 percent habitat increase for the Weaverville Deer Herd Winter Range.

Whiskeytown Deer Herd

Management actions that would have a beneficial impact to the winter range for the Whiskeytown Deer herd include the acquisition of unimproved private lands, improvements in deer winter range conditions, and closure of specific roads and trails between November 15 and April 15 (period when deer are present).

If BLM were to acquire all of the lands identified in this land-use management alternative, there would probably not be a significant beneficial impact to the deer winter range or deer populations because most of these lands are currently undeveloped and the potential for development in this area seems to be remote. Closing specific roads and trails in the Gene Chappie/Shasta Off-Highway Vehicle Area would result in reducing stress to wintering deer and could improve fawn survival during the fawning season. This should lead to some small population increases (less than 10 percent) in the deer herd. Improvement of the deer winter range by vegetative manipulation would increase deer populations if a minimum of 5000 acres of habitat were treated each year.

Impacts To Scenic Quality

Scenic quality would be protected or enhanced throughout most of the Resource Area under this alternative. Visual Resource Management Class II prescriptions would be applied to the public lands along Butte Creek, Battle Creek, the Trinity River, the Sacramento River, the South Fork of Cottonwood Creek, the Shasta River, the Klamath River, Quartz Hill, within the viewshed of the Whiskeytown Unit of the National Recreation Area and the Shasta Dam Scenic Drive, as well as the Upper Ridge Nature Preserve. Deer Creek would be managed under a Visual Resource Management Class I prescription. The Middle Fork of Cottonwood Creek, Duncan Creek and Sunflower Flat areas would receive a Visual Resource Management Class III prescription, ensuring that management actions would repeat the basic elements of the characteristic landscape. Public land transfers or disposals under this alternative would not negatively affect scenic quality. Scenic quality would continue to degrade around populated areas of the Resource Area, especially around Redding. Retention of public land ownership in these areas would have minimal consequence in this overall situation.

Impacts To Slender Orcutt Grass

This alternative would have beneficial impacts by improving the quality and quantity of this species by providing better protection with the ACEC designations, and by assuring the long term survival of this species through acquisition or cooperative management of 3 sites, involving 106.2 acres of suitable habitat presently located on private lands. Overall, this alternative would ensure the perpetuation of the species principally due to the actions of BLM and their cooperators. The actions of others would, however, degrade any remaining habitat at privately owned sites outside the Sacramento River Management Area.

Impacts To Spotted Owl

Although this alternative could have significant beneficial and localized impacts to specific spotted owls, the cumulative impact of this land-use management alternative would be insignificant. One of the 173 spotted owls present within the Resource Areas' Habitat Conservation Areas would have a greater chance at breeding successfully, and individual owl movement between the Habitat Conservation Areas would be eased. Of the 395,000 to 495,000 acres of habitat located outside the Habitat Conservation Areas, but within the Redding Resource Area boundary, 0 acres of habitat (superior, suitable and marginal) within the BLM key areas would be moderately degraded, and 6,086 acres would be protected through Wilderness management, Owl Habitat Area designation and highly restrictive timber harvest. All actions that would adversely affect the spotted owl (including habitat) would require consultation with the U.S. Fish and Wildlife Service. A summary of Key Area impacts follow:

Crater Creek:

This parcel would be designated as an Owl Habitat Area (OHA) and would be available for exchange or sale under the condition that it be managed as an OHA. No degradation would be expected to occur to the 170 acres of habitat. If this parcel were exchanged to the private sector, the loss of federal jurisdiction could reduce the possibility of improving the habitat conditions. No impacts would occur to the pair of spotted owls located within the Habitat Conservation Area that encompasses this key area.

Eastman Gulch:

This area would remain under BLM administration and available private lands adjoining the area would be acquired. 549 acres of suitable habitat within this area would be protected with the designation of an Owl Habitat Area, and the remaining habitat (25 acres of superior, 219 acres of suitable and 22 acres of marginal) would be restricted from intensive timber management. The single spotted owl pair would likely have greater success at breeding with the designation of an OHA and highly restrictive timber harvests.

Quartz Hill:

This area would be retained by BLM and available private lands would be acquired to facilitate comprehensive management of the area. Habitat improvement projects would likely increase the suitable habitat acreage within this area. It would be reasonable to expect that the 15 acres of currently marginal habitat could reach suitable conditions within 30 years through intensive management. The single spotted owl would likely be forced to migrate from the area due to the impacts that past timber harvesting has had upon habitat located on BLM and private lands.

Rich Gulch:

This area would be retained by BLM and available private lands would be acquired to facilitate comprehensive management of the area. Timber harvesting would be strongly restricted and no degradation to the 1,199 acres of suitable and 593 acres of marginal habitat would occur. The single spotted owl would have a greater chance in attracting a mate into the area due to the protection and enhancement of currently limited amounts of contiguous habitat.

Scott Valley Block:

This area would be retained in BLM ownership, and available private lands adjacent to BLM lands would be acquired. Through comprehensive management, it would be reasonable to expect that suitable habitat within BLM jurisdiction in the area could increase to over 2,500 acres if all of the lands identified were acquired. Federal comprehensive management in this currently noncontiguous area, currently important because of its spatial relationship to other habitat, would be a beneficial action. Individual owl movement between Habitat Conservation Areas would be eased with restrictive timber harvests.

Tunnel Ridge:

This area would be transferred to the U.S. Forest Service to be managed as Wilderness. Comprehensive management of this area would be a beneficial action. The single spotted owl would likely attract a mate due to the abundance of habitat.

Willow Creek:

This area would be designated as an Owl Habitat Area (OHA) and would be transferred to the US Forest Service to be managed as an OHA in accord with their Habitat Conservation Area. The six pairs of spotted owls within the HCA would not be impacted.

Impacts to Waterfowl/Wetland Habitat

Through implementation of this land-use management alternative, some negative impacts could occur in both the Klamath and Sacramento River Management Areas due to increased public recreation opportunities. These impacts would be stress related and should not be significant during the 15 year time frame of this RMP.

Klamath Management Area

This land-use management alternative has identified, through exchange or purchase, the acquisition of approximately 16,000 acres of wetlands in the Shasta Valley and Grass Lake. Management actions for this alternative include: long term protection and enhancement of native wetlands, enhancement of native waterfowl and upland wildlife habitat. If these management actions are implemented, there could be a 15 to 20 percent increase in waterfowl production. The 16,000 acres would be protected from future draining or development.

Sacramento River Management Area

Under this alternative, several parcels of private land have been identified for acquisition in the Sacramento River Management Area that either contain wetlands or have potential for development of new wetlands. Successful acquisition of these lands would improve habitat conditions on many of these areas by reducing competitive uses, such as grazing, and other agricultural uses. There would also be an opportunity for development of new wetlands on several parcels. Waterfowl wintering areas would be increased by two to three hundred acres, resulting in a corresponding increase in wintering waterfowl population of 60 to 80 percent greater than the No

Action Alternative. Waterfowl production would possibly increase slightly.

RESOURCE USE WITH NATURAL VALUES CONSIDERATION ALTERNATIVE

Impacts to Anadromous Salmonid Habitat

Under this land-use management alternative, protection of many of the key areas would be ensured through major acquisitions along the Sacramento River, Battle Creek, Trinity River, Shasta River, and Klamath River. BLM and other public agencies would retain ownership in 39 miles of key habitat area and acquire an additional 87 1/2 miles of key habitat. BLM would consider disposal, via exchange, of approximately 5 miles of key habitat area. Overall this land-use management alternative would have very beneficial impacts to anadromous salmonid habitat.

The beneficial consequences of BLM approved actions would be imperceptible within the Klamath and Shasta river systems incorporating any below key area. The relative lack of BLM administered habitat and the actions of others when viewed cumulatively would constrain BLM opportunities to improve the overall quality of these anadromous fisheries. Within the Sacramento River, BLM actions, when viewed in concert with the planned actions of others, would have a minor stabilizing impact on the anadromous fisheries mainly due to the enhancement of Clear Creek. Protection of key habitat in the Trinity River system would complement the overall effort to restore the anadromous fisheries. A summary of Key Area impacts follow:

Battle Creek:

BLM would consolidate public ownership and administration in the lower twenty miles (below Manton Road bridge) of this important stream. Acquisition of 19 miles of stream, restrictions on vehicle use, mineral development, and grazing would accelerate the restoration of this formerly significant stream. Success would still depend on the ability to allow passage of fish past water control structures. The disposal of five miles of public ownership above Manton Road would somewhat limit opportunities to maintain, or improve, the overall condition of the stream for upstream spawners.

Canyon Creek:

The consequences of this land-use management alternative are identical to the Enhancement of Natural and Cultural Values Alternative.

Clear Creek:

The consequences of this land-use management alternative are identical to the Enhancement of Natural and Cultural Values Alternative.

Cottonwood Creek:

The consequences of this land-use management alternative are identical to the Administrative Adjustment Alternative.

Deadwood Creek:

The consequences of this land-use management alternative are identical to the Enhancement of Natural and Cultural Values Alternative.

Deer Creek:

The consequences of this land-use management alternative are identical to the Enhancement of Natural and Cultural Values Alternative.

Dry Creek:

The consequences of this land-use management alternative are identical to the Enhancement of Natural and Cultural Values Alternative.

Indian Creek:

The consequences of this land-use management alternative are identical to the Enhancement of Natural and Cultural Values Alternative.

Klamath River:

The consequences of this land-use management alternative are identical to the Administrative Adjustment alternative.

Mill Creek:

The consequences of this land-use management alternative are identical to the Administrative Adjustment alternative.

North Fork Trinity River:

The consequences of this land-use management alternative are identical to the Administrative Adjustment Alternative.

Reading Creek:

The consequences of this land-use management alternative are identical to the Administrative Adjustment Alternative.

Rush Creek:

The consequences of this land-use management alternative are identical to the Administrative Adjustment Alternative.

Sacramento River:

The consequences of this alternative are identical to the Enhancement of Natural and Cultural Values Alternative.

Trinity River:

The consequences of this alternative are identical to the Administrative Adjustment Alternative.

Impacts To Archaeological Resources

On balance this land-use management alternative would increase the protection of archaeological and historical sites. The major difference between this land-use management alternative and the Enhancement of Natural and Cultural Values Alternative is in the amount of archaeologically rich areas that would be acquired (less in this alternative) and the designation of fewer ACEC's with important archaeological resources, or less area within given ACEC's. Those areas with significant archaeological sites that are not earmarked for acquisition in this land-use management alternative as compared to the Enhancement of Natural and Cultural Values Alternative include Black Mountain, and locations along the Klamath and Trinity rivers, and along Jenny and Butte creeks. Less protection would be potentially afforded sites in the Sacramento River and Crystal Hill/Kanaka Peak areas without ACEC designation as access would be less restrictive and looting or illegal collecting may occur.

Overall, acquisitions would possibly bring between 200 and 400 sites into the public domain, 25% of which may

be eligible for inclusion in the National Register of Historic Places. Disposal could result in the loss of somewhere in the vicinity of 50 to 150 sites, probably 90% or more not of National Register quality. Transfer of management responsibilities of the Cedar Gulch Cemetery to Native Americans and of lands around Old Shasta State Park to the State would help better protect archaeological locations on these lands. Similarly, transfer of administrative responsibilities of the parcels in Mill Creek Canyon to The Nature Conservancy would provide more protective oversight. Transfer of lands around Lake Oroville to the State might increase site protection, although water-based recreation is the dominant focus and staff cutbacks have recently lessened attention to the many instances of looting currently occurring at sites in this vicinity. Such a transfer might involve 25-50 sites.

Increased recreation use along the Trinity and Sacramento rivers and within the Gene Chappie/Shasta Off-Highway Vehicle Area, and area-wide road designation policies could lead to more access and impacts from looters, collectors, and vehicle enthusiasts, especially in those areas where road designations are not specific or are liberal with regard to use. Anywhere from 15 to 50 sites might be involved. Habitat improvement projects in select areas as discussed in the Enhancement of Natural and Cultural Values Alternative could damage 15-25 sites without full inventory and precise planning. Continued cattle grazing at designated levels and woodcutting might create impacts to several dozen sites, mostly lithic scatters and small middens.

Impacts To Deer Winter Range

Although there are no specific management actions designed to increase and or improve deer winter range conditions, impacts through implementation of this land-use management alternative would be similar to those discussed within the Enhancement of Natural and Cultural Values Alternative.

Impacts To Scenic Quality

Scenic quality maintenance would be provided through Visual Resource Management Class II prescriptions for the Trinity River, Shasta/Klamath River canyon, Upper Klamath River, Sacramento River, Butte Creek, Battle Creek, as well as the viewshed for Whiskeytown NRA and the Shasta Dam Scenic Drive. Scenic quality would be enhanced for Deer Creek with a Visual Resource Management Class I prescription. The Sunflower Flat-Elkhorn Peak and Middle Fork Cotton-

wood Creek areas would receive the limited protection of a Visual Resource Management Class III prescription. Streams found to be Wild and Scenic eligible due to scenery would also be protected through Visual Resource Management Class II prescription until suitability could be determined. The remainder of the public lands would not have scenic quality protection. Scenic quality degradation in these other areas would occur irrespective of BLM approved actions. Transfer of public lands to the private sector would contribute and, perhaps, hasten the cumulative scenic degradation in areas near the towns of Redding and Weaverville.

Impacts To Slender Orcutt Grass

Implementation of this alternative would provide much of the same beneficial impacts offered by the Enhancement Of Natural And Cultural Values Alternative, although this alternative would not designate Areas of Critical Environmental Concern to further benefit orcutt populations and habitat. Acquisitions or cooperative agreements would assure long term survival of 3 sites and 106.2 acres of additional habitat presently in private ownership. Overall, this alternative would ensure the perpetuation of the species principally due to the actions of BLM and their cooperators. The actions of others would, however, degrade any remaining habitat at privately owned sites outside the Sacramento River Management Area.

Impacts To Spotted Owl

Coupled with other Federal, state, and private actions, the cumulative impact of this land-use management alternative would be insignificant to the Resource Area spotted owl population. One of the 173 spotted owl pairs located with the Resource Areas' Habitat Conservation Areas would have a greater chance at breeding successfully, and individual owl movement into and from the Habitat Conservation Areas would be slightly improved. Of the 395,000 to 495,000 acres of habitat located outside the Habitat Conservation Areas, but within the Redding Resource Area boundary, 4,079 acres of habitat (superior, suitable and marginal) within the BLM key areas would be slightly degraded, and 2,007 acres would be protected through Wilderness management, Owl Habitat Area designation, and moderately restrictive timber harvesting. All actions that would adversely affect the spotted owl (including habitat) would require consultation with the U.S. Fish and Wildlife Service. A summary of Key Area impacts follow:

Crater Creek:

This area would be designated as an Owl Habitat Area (OHA) and would be available for exchange or sale provided that it be managed as an OHA. No degradation would be expected to occur to the 170 acres of habitat. If this parcel were exchanged to the private sector, the loss of Federal jurisdiction could reduce the possibility of improving the habitat conditions. No impacts would occur to the pair of spotted owls located within the Habitat Conservation Area that encompasses this key area due to the abundance of habitat located within the HCA.

Eastman Gulch:

This area would remain in BLM administration and available private lands adjoining the area would be acquired. 549 acres of suitable habitat within this area would be protected with the designation of an Owl Habitat Area, and the remaining habitat (25 acres of superior, 219 acres of suitable and 22 acres of marginal) would be available for multiple use management (including timber harvest). Timber harvest activities outside the OHA may alter habitat conditions, pending compliance with the Endangered Species Act (ESA). The single spotted owl pair would likely have greater success at breeding with the designation of an OHA and acquisition of adjoining private lands.

Quartz Hill:

This area would be retained by BLM, and available private lands would be acquired to facilitate comprehensive management of the area. Multiple-use management would be emphasized (including timber harvest). Slight alterations of habitat conditions could occur, pending compliance with the ESA. The single spotted owl would likely be forced to migrate from the area due to the impacts that past timber harvesting has had upon habitat located on BLM and private lands.

Rich Gulch:

This area would be retained by BLM and available private lands would be acquired to facilitate comprehensive management of the area. Multiple-use management (including timber harvest) would likely alter the presently 1,199 acres of suitable and 593 acres of marginal habitat, pending compliance with the ESA. Because this area contains only a limited amount of contiguous habitat which could be degraded through

timber harvesting, the single spotted owl would likely be unsuccessful in attracting a mate into this key area.

Scott Valley Block:

This area would be retained in BLM administration, and available private lands adjacent to BLM lands would be acquired. Through comprehensive management, it would be reasonable to expect that suitable habitat within BLM jurisdiction could increase to over 2,500 acres if all of the lands identified were acquired. This would ease individual owl movement into and from Habitat Conservation Areas. Multiple-use management (including timber harvest) would likely alter habitat conditions, pending compliance with the ESA.

Tunnel Ridge:

This area, designated as Wilderness, would be managed by BLM in accord with the U.S. Forest Service. No degradation to the 251 acres of superior, 573 acres of suitable and 314 acres of marginal habitat would be expected. The single spotted owl in the area would likely attract a mate due to the abundance of habitat.

Willow Creek:

This area would be designated as an Owl Habitat Area (OHA) and would be transferred to the U.S. Forest Service to be managed as an OHA in accord with their Habitat Conservation Area. The six pairs of spotted owls within the HCA would not be impacted.

Impacts To Waterfowl/Wetland Habitat

Under this land-use management alternative, beneficial impacts would be the same as those discussed under the alternative Enhancement of Natural and Cultural Values except approximately 1,000 acres of wetlands in Shasta Grass Lake may be degraded under long term private ownership.

RESOURCE USE ALTERNATIVE

Impacts to Anadromous Salmonid Habitat

Under this land-use management alternative, BLM would acquire significant lengths of key habitat areas on the Sacramento River and lower Battle Creek. Important acquisitions would also be made in the lowest stretches of the Shasta River, Deadwood Creek, Canyon Creek, and Indian Creek. BLM presently administers 44 miles within key habitat areas. BLM would acquire 31 miles of

additional key habitat and would consider disposal via exchange of 6 miles of key areas. Overall, 69 miles (or less than one-half of all key habitat areas) would be managed by BLM at the end of the planning horizon of this RMP.

BLM approved actions when viewed cumulatively with other non-BLM actions would have negligible adverse or beneficial consequences within the major river systems incorporating these key areas. Refer to the No Action Alternative for the specific discussion of the overall impacts to the Klamath, Sacramento, Shasta and Trinity Rivers.

The consequences for each specific key area under this land-use management alternative includes:

Battle Creek:

Five miles of existing public ownership above Manton Road bridge would be available for disposal via exchange. Loss of this public ownership could constrain opportunities to maintain or improve the overall condition of anadromous salmonid spawning in this upper reach of the creek. This constraint is off-set, however, by significant acquisitions above and below Coleman Hatchery. Ten additional miles of the most important stretch of this creek would be acquired under this land-use management alternative. Restrictions on grazing, mineral development, and vehicle use would ensure long-term protection of the lowest eleven miles of this regionally significant stream.

Canyon Creek:

One additional mile of this key area would be acquired bringing the lowest four miles of this stream into public ownership. Management as a "Recreational" component of the National Wild and Scenic Rivers System would assist in protection of this stream since plans of operation for locatable mining activities would be required. However, protective management actions could be compromised by actions permitted under the 1872 Mining Law. Therefore, the condition of this key area would likely remain stable with limited opportunities for improvement.

Clear Creek:

The consequences of this land-use management alternative would be identical to the Administrative Adjustment Alternative.

Cottonwood Creek:

The consequences of this land-use management alternative would be identical to the Administrative Adjustment Alternative.

Deadwood Creek:

Under this alternative, BLM would add two additional miles of stream bringing all three miles of this area into public ownership. Restricting vehicles to designated roads and trails would help protect this stretch of stream. Opportunities for land subdivision would be foreclosed. The stream would, however, be open to mineral location and development. Therefore, the condition of the stream would remain in a stable condition with limited long-term enhancement opportunities.

Deer Creek:

The consequences of this land-use management alternative are identical to the Administrative Adjustment Alternative.

Dry Creek:

Under this alternative, the 1/2 mile of public ownership would be available for exchange. The condition of this steelhead spawning area would degrade as long-term monitoring and maintenance actions*¹ + ease.

Indian Creek:

The consequences of this land-use management alternative are identical to those described above for Deadwood Creek.

Klamath River:

No public acquisitions would be made in this key area. Existing public ownership (1/2 mile) would be protected with restrictions on grazing and spot mineral withdrawals. BLM actions would be inconsequential, but, the condition of this key area would continue to decline.

Mill Creek:

The consequences of this land-use management alternative are identical to the Administrative Adjustment Alternative.

North Fork Trinity River:

BLM would retain administration of this one mile key area. Restrictions on vehicle use and mineral material disposals would enhance the long-term condition of this segment of the stream.

Reading Creek:

The consequences of this land-use management alternative are identical to the Administrative Adjustment Alternative.

Rush Creek:

The consequences of this land-use management alternative are identical to the Administrative Adjustment Alternative.

Sacramento River:

The consequences of this land-use management alternative are identical to the Enhancement of Natural and Cultural Values Alternative.

Shasta River:

The consequences of this land-use management alternative are identical to the Administrative Adjustment Alternative.

Trinity River:

No additional stream mileage would be acquired by BLM under this alternative. The existing nineteen miles of public ownership would be maintained in current conditions through restrictions on mineral material disposals and vehicle usage. All developed public facilities would not be open to mineral location, however, the majority of the public ownership within this key area would be open to mineral entry. The trend in the condition of habitat would be downward due to continued private land development, no increase in public ownership, and limits on habitat improvement due to mineral and recreational development and uses on public land.

Impacts To Archaeological Resources

Overall impacts to archaeological resources potentially would be greater under this land-use management alternative than any other, although the exact balance is difficult to define. Damage to sites would tend to result indirectly due to the development-oriented focus where

there would be increased access and the potential for looting, vandalism, and off-road vehicle damage. Mining activities would no doubt increase under this alternative, leading to site damage, especially during assessment work. Dozens and perhaps a hundred or more sites might be affected at some level from these combined activities.

The proposed acquisitions under this alternative, while largely for forestry and recreation uses, would actually serve in other ways to benefit the protection and conservation of scores of important archaeological sites, including the historic townsites of Helena, Deadwood and Forks of Butte as well as important prehistoric villages along the Sacramento and Klamath rivers. Bearing in mind the problems of access and mining stated above, most actions would be covered under archaeological protection laws serving to safeguard most sites from direct impacts. Research and interpretation opportunities would be increased in these areas. Acquisitions may bring somewhere in the vicinity of 150 to 350 archaeological and historical sites into BLM hands, up to 25% of possible National Register quality.

Disposal of public lands, impacts of which have been discussed in the previous alternatives, could lead to the transfer of around 50 to 275 sites from the Federal domain, over 90% of which are probably not of National Register quality. Several transfers could potentially be beneficial, as with the transfer of lands to the State Park System (Shasta State Historic Park and Lake Oroville State Recreation Area) and National Park Service (Clear Creek), where several dozen or more archaeological sites might be involved. Importantly, this land-use management alternative does not provide for the special management focus of very sensitive archaeological zones through the ACEC process. In these areas discussed under other land-use management alternatives, archaeological site protection and interpretation/research would be encouraged and enhanced. Impacts to sites from habitat improvement projects, as at Horse-shoe Ranch and within the Yolla Bolly area, may result from those coordinated actions where sufficient survey and site evaluations are not fully conducted to safeguard all sites, especially lithic scatters.

Impacts To Deer Winter Range

There would not be any impacts, adverse or beneficial under this land-use management alternative for the three deer herd winter ranges.

Impacts To Scenic Quality

Apart from a Visual Resource Management Class III prescription for the Trinity River corridor, no other prescriptions would be applied to the public lands. Scenic quality would be maintained temporarily within 1/4 mile of streams found eligible for inclusion in the National Wild and Scenic Rivers System where scenic quality was an Outstandingly Remarkable Value. As land-uses which contrasted with the existing landscape character occurred, scenic quality would be degraded. Transfer of public lands and implementation of BLM approved actions would have a minor additional consequence to the general degradation of scenic quality adjoining the populated areas of the Redding Resource Area. The fragmented public land ownership pattern and the actions of others would lead to the visible alterations of viewsheds adjoining Redding and, to a lesser degree, Weaverville. BLM actions may hasten this degradation.

Impacts To Slender Orcutt Grass

The orcutt populations and habitat evaluated within this analysis are within the Sacramento River Management Area. Impacts to slender orcutt grass would be identical to the Enhancement of Natural and Cultural Values Alternative. Even with protective covenants, the trend for the species would continue downward due to the actions of others. Therefore, the actions of BLM would have minimal beneficial consequences for Orcuttia tenuis when viewed cumulatively.

Impacts To Spotted Owl

Coupled with other Federal, state and private actions, the cumulative impact of this land-use management alternative would be insignificant to the Resource Area spotted owl population. One of the 173 owl pairs located within the Resource Area's Habitat Conservation Areas would have a greater chance at breeding successfully, although individual owl movement into and from the HCA's would be slightly impeded. Of the 395,000 to 495,000 acres of habitat outside HCA's within the Resource Area 4,079 acres of habitat (superior, suitable and marginal) within the BLM key areas would be moderately degraded, and 2,007 acres would be protected through Wilderness management and Owl Habitat Area designation. All actions that would adversely affect the spotted owl (including habitat) would require consultation with the US Fish and Wildlife Service. A summary of Key Area impacts follow:

Crater Creek:

This area would be designated as an Owl Habitat Area (OHA) and would be available for exchange or sale provided that it be managed as an OHA. No degradation would be expected to occur to the 170 acres of habitat. If this parcel were exchanged to the private sector, the loss of Federal jurisdiction could reduce the possibility of improving the habitat conditions. No impacts would occur to the pair of spotted owls located within the Habitat Conservation Area that encompasses this key area due to the abundance of habitat protected within the HCA.

Eastman Gulch:

This area would remain under BLM administration and available private lands adjoining the area would be acquired. 549 acres of suitable habitat within this area would be protected with the designation of an Owl Habitat Area, and the remaining habitat (25 acres of superior, 219 acres of suitable and 22 acres of marginal) would be available for timber harvest. Timber harvest activities outside the OHA would significantly alter habitat conditions, pending compliance with the Endangered Species Act (ESA). The single spotted owl pair located within the area would likely have greater breeding success with the habitat protection afforded OHA designation.

Quartz Hill:

This area would be retained by BLM and available private lands would be acquired to facilitate comprehensive management of the area. Multiple-use management would be emphasized (including intensive timber harvest). Timber harvest activities would likely significantly alter habitat conditions, pending compliance with the Endangered Species Act (ESA). The single spotted owl would likely be forced to migrate from the area due to the impacts that past timber harvesting has had upon the amount of habitat located on BLM and private lands.

Rich Gulch:

This area would be retained by BLM and available private lands would be acquired to facilitate comprehensive management of the area. Multiple-use management (including intensive timber harvest) would likely degrade the presently 1,199 acres of suitable and 593 acres of marginal habitat, pending compliance with the ESA. Because this area contains only a limited amount

of contiguous habitat that could be degraded through timber harvesting, the single spotted owl would likely be unsuccessful in attracting a mate into this area.

Scott Valley Block:

This area would be retained in BLM administration, and available private lands adjacent to BLM lands would be acquired. Multiple-use management (including intensive timber harvest) would likely degrade habitat conditions, pending compliance with the ESA. Although these noncontiguous parcels would be under Federal jurisdiction, timber harvest regimes would not be significantly different from those within the No Action Alternative to improve habitat continuity and individual owl movement between HCA's would be impeded.

Tunnel Ridge:

This area would be transferred to the U.S. Forest Service to be managed as Wilderness. Comprehensive management of this area would be a beneficial action. The single spotted owl within the key area would likely attract a mate due to the abundance of habitat.

Willow Creek:

This area would be designated as an Owl Habitat Area (OHA) and would be transferred to the US Forest Service to be managed as an OHA in accord with their Habitat Conservation Area. The six pairs of spotted owls located within the HCA would not be impacted.

Impacts To Waterfowl/Wetland Habitat

Impacts under this land-use management alternative for wetlands and waterfowl habitat within the Shasta Valley and Shasta Grass Lake would be the same as for the No Action Alternative, since these lands would remain in private ownership.

Impacts for wetlands and waterfowl habitat within the Sacramento River Management Area would be the same as the Enhancement of Natural and Cultural Values Alternative.

PROPOSED ACTION ALTERNATIVE**Impacts to Anadromous Salmonid Habitat**

The consequences of this land-use management alternative within the entire Redding Resource Area are identical to those described in the Resource Use With Natural

Values Consideration Alternative for every key area analyzed for anadromous salmonid habitat. A total of 126.5 miles of key habitat would be administered by BLM improving the long term production of anadromous species.

The beneficial consequences of BLM approved actions would be imperceptible within the Klamath and Shasta river systems incorporating any below key area. The relative lack of BLM administered habitat and the actions of others when viewed cumulatively would constrain BLM opportunities to improve the overall quality of these anadromous fisheries. Within the Sacramento River BLM actions, when viewed in concert with the planned actions of others, would have a minor stabilizing impact on the anadromous fisheries mainly due to the enhancement of Clear Creek. Protection of key habitat in the Trinity River system would complement the overall effort to restore the anadromous fisheries.

Impacts To Archaeological Resources

The most positive effect within this land-use management alternative would be the acquisition of significant archaeological sites, including complex prehistoric villages, in the Shasta Valley and along the Sacramento and Klamath rivers. Important historical sites would be acquired in Deadwood/French Gulch, along Butte and Clear creeks, and along the Trinity River including portions of the old mining communities of Deadwood, Horsetown, Helena, and Forks of Butte. Significant rockshelter sites and Indian camps related to Ishi and his group, the Yahi Yana, would come into Federal hands with acquisitions in Deer and Battle creeks. Sites acquired along these two drainages would probably exceed 50. Total acquisitions could result in the transfer of possibly 250-1000 sites to BLM.

On the negative side in the exchange or disposal process, BLM would lose management authority over approximately 150-700 sites, mostly (around 80-90%) non-National Register quality locations. These sites would potentially be subjected to increased impacts where less oversight and protective regulations would apply, as in development and from looting and vandalism. This is most likely in the areas around Redding, Weaverville and Oroville. Transfer of land to other Federal and state agencies may in some cases expand site protection through increased monitoring and other positive management actions. This would include parcels around Shasta State Historic Park, along Mill Creek, the Cedar Gulch and Central Valley Indian cemeteries, and possibly the Lake Oroville State Recreation Area.

(This holds true in all land-use management alternatives).

Another positive aspect of this land-use management alternative is the ACEC designations at Swasey Drive, Sacramento River, Deer Creek and Butte Creek where archaeological resources are important. Through such designation these resources will be given special attention and protection.

Acquisitions in the Horseshoe Ranch area could lead to negative impacts to archaeological resources through brush conversion without a coordinated plan following inventory. In some areas, as along the Trinity, Sacramento and Klamath rivers, in Deer Creek Canyon, and in the Shasta Valley, acquisition could lead to looting and vehicle damage and other impacts without close monitoring and careful attention in the local management. Some of these areas are now in essence closed to the public providing a protective net of sorts. This, however, limits the archaeological resources' research and interpretive/conservation possibilities.

Impacts resulting from locatable mineral activities, and oil, gas and geothermal exploration, leasing and development, despite regulations, would have negative impacts on archaeological resources, especially historic sites along the principal drainages. The level of these impacts is very difficult to assess, probably including dozens of sites of varying levels of significance over the life of the RMP. The impacts would probably vary little by land-use management alternative with most impacts resulting from locatable mineral activities since most oil, gas and geothermal operations can be arranged to avoid site impacts.

Impacts To Deer Winter Range

Impacts to the three deer winter ranges and the deer populations would be the same as those discussed within the Enhancement of Natural and Cultural Values alternative.

Impacts To Scenic Quality

Scenic quality would be maintained within the Trinity River corridor, the Sacramento River Area, along both the middle and upper Klamath River segments, the Shasta River canyon, Horseshoe Ranch, the viewsheds of the Whiskeytown Unit of the National Recreation Area and Shasta Dam Scenic Drive, and the Forks of Butte Creek Recreation Area. These areas would be managed under a Visual Resource Management Class II prescrip-

tion. Public lands identified for transfer to other agencies in the Yolla Bolly, Klamath and Ishi management areas may or may not retain their scenic qualities, depending upon the uses the other agencies made of them. The public lands identified for transfer surrounding the City of Redding would probably be developed eventually for uses which would create contrasts to their existing landscapes, resulting in degradation of scenic quality. The scenic quality of public lands identified for exchange throughout the Resource Area would probably be degraded over the long term as these lands were developed by their new owners. Because the private land acquisition program is focused in those areas where Visual Resource Management Class II prescriptions would be applied, over the long term scenic quality would be maintained or protected over the more significant scenic resources where public interest and sensitivity is greatest. Therefore the cumulative effect would be an overall enhancement of scenic quality under this alternative.

Impacts To Slender Orcutt Grass

This land-use management alternative would have beneficial impacts by improving the quality and quantity of this species by providing better protection with the ACEC designations, and by assuring the long term survival of this species through acquisition or cooperative management of 3 sites, involving 106.2 acres of suitable habitat presently located on private lands. Overall, this alternative would ensure the perpetuation of the species principally due to the actions of BLM and their cooperators. The actions of others would, however, degrade any remaining habitat at privately owned sites outside the Sacramento River Management Area.

Impacts To Spotted Owl

Coupled with other Federal, state, and private actions, the cumulative impact of this land-use management alternative would be insignificant to the Resource Area spotted owl population. One of the 173 spotted owl pairs located within the Resource Areas' Habitat Conservation Areas would have a greater chance at breeding successfully, although individual owl movement into and from the Habitat Conservation Areas would be slightly impeded. Of the 395,000 to 495,000 acres of spotted owl habitat located outside Habitat Conservation Areas, but within the Redding Resource Area boundary, 4,079 acres of habitat (superior, suitable and marginal) within the BLM key areas would be slightly degraded, and 2,007 acres would be protected through Wilderness management, Owl Habitat Area designation

and moderately restrictive timber harvesting. All actions that would adversely affect the spotted owl (including habitat) would require consultation with the U.S. Fish and Wildlife Service. A summary of Key Area impacts follow:

Crater Creek:

This area would be designated as an Owl Habitat Area (OHA) and would be available for exchange or sale provided that it be managed as an OHA. No degradation would be expected to occur to the 170 acres of habitat. If this parcel were exchanged to the private sector, the loss of Federal jurisdiction could reduce the possibility of improving the habitat conditions. No impacts would occur to the pair of spotted owls located within the Habitat Conservation Area that encompasses this key area due to the abundance of habitat protected within the HCA.

Eastman Gulch:

This area would remain in BLM administration and available private lands adjoining the area would be acquired. 549 acres of suitable habitat within this area would be protected with the designation of an Owl Habitat Area, and the remaining habitat (25 acres of superior, 219 acres of suitable and 22 acres of marginal) would be available for multiple use management (including timber harvest). Timber harvest activities outside the OHA may alter habitat conditions, pending compliance with the Endangered Species Act (ESA). The single spotted owl pair would likely have greater success at breeding with the designation of an OHA and acquisition of adjoining private lands.

Quartz Hill:

This area would be available for exchange or sale; while in the interim, multiple-use management subject to compliance with the Endangered Species Act (ESA) would be emphasized. If private industry were to obtain these parcels, degradation could occur to the remaining 170 acres of suitable and 15 acres of marginal habitat. The single spotted owl in the area would likely be forced to migrate from the area due to the impacts that past timber harvesting has had upon habitat located on BLM and private lands.

Rich Gulch:

This area would be retained by BLM and available private lands would be acquired to facilitate comprehen-

sive management of the area. Multiple-use management (including timber harvest) would likely alter the presently 1,199 acres of suitable and 593 acres of marginal habitat, pending compliance with the ESA. Because this area contains only a limited amount of contiguous habitat which could be degraded through timber harvesting, the single spotted owl would likely be unsuccessful in attracting a mate into this key area.

Scott Valley Block:

This area would be available for exchange or sale; while in the interim, multiple-use management subject to compliance with the ESA would be emphasized. While under BLM jurisdiction, timber harvests would likely alter the 24 acres of superior, 1,793 acres of suitable and 19 acres of marginal habitat. If these noncontiguous parcels were transferred to the private sector, comprehensive management of the area would be foregone and individual owl movement between Habitat Conservation Areas would be slightly impeded through subsequent piecemeal timber harvests. These parcels may provide significant continuity to substantial habitat located to the southeast and northwest.

Tunnel Ridge:

This area, designated as Wilderness, would be managed by BLM in accord with the U.S. Forest Service. No degradation to the 251 acres of superior, 573 acres of suitable and 314 acres of marginal habitat would be expected. The single spotted owl in the area would likely attract a mate due to the abundance of habitat.

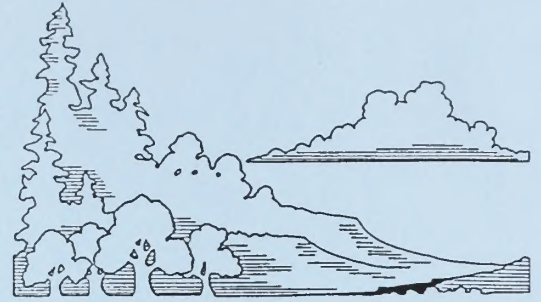
Willow Creek:

This area would be designated as an Owl Habitat Area (OHA) and would be transferred to the U.S. Forest Service to be managed as an OHA in accord with their Habitat Conservation Area. The six pairs of spotted owls within the HCA would not be impacted.

Impacts To Waterfowl/Wetland Habitat

Impacts for the Shasta Valley, Grass Lake, and Sacramento River area will be the same as those discussed for the Enhancement of Natural and Cultural Values Alternative.

CHAPTER 5 - CONSULTATION AND COORDINATION



CHAPTER 5

CONSULTATION AND COORDINATION

INTRODUCTION

Chapter 5 consists of three sections which describe the public involvement in the preparation of this document. The first section briefly notes the involvement of the public in helping to define the planning issues. The second section lists the agencies and organizations contacted by BLM in the development and refinement of the land use management alternatives. The last section consists of a partial listing of parties to receive a copy of this document for review.

PLANNING ISSUE IDENTIFICATION

The public was invited to participate in the development of the RMP during the initial scoping phase. A Notice of Intent to Prepare (a) Resource Management Plan was published in the Federal Register on December 15, 1988 and February 3, 1989. This notice invited public participation and announced meetings to gather public input. These meetings were also announced in the local media (i.e., newspaper, radio, and television) and through direct mailing of notices to agencies, organizations, and individuals on an existing Redding Resource Area mailing list.

Public meetings were held February 13, 1989 in Redding; February 15, 1989 in Red Bluff; February 21, 1990 in Chico; February 23, 1990 in Yreka; and, February 27, 1989 in Weaverville, California. Public comments and suggestions from these meetings and subsequent letters from the interested public were used by the BLM team to identify the major planning issues. These issues were broadly defined to include public concerns. These issues are stated in Chapter 1, INTRODUCTION of this document.

MANAGEMENT ALTERNATIVES IDENTIFICATION

The land use management alternatives described in Chapter 3 were developed to address the planning is-

ssues, BLM management concerns, and certain public concerns. In addition to this initial public and agency input, BLM reviewed a number of land use plans prepared by other agencies within the planning area. BLM also met personally with many agencies, organizations, and individuals to identify major land ownership patterns in the planning area and to aid in developing realistic land use management alternatives for the RMP.

Under Section 202 (c)(9) of the Federal Land Policy and Management Act of 1976, BLM is required to ensure consistency of the RMP with the land use plans of other Federal, State, and local agencies as long as such consistency is permissible under existing laws. As part of this RMP effort, BLM reviewed the following land use plans:

National Forest Plans (existing, draft, and in process) for Klamath, Lassen, Mendocino, Plumas, and Shasta-Trinity National Forests; Resource Management Plan for the Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area (National Park Service); Keswick Lake Recreation Plan (U.S. Bureau of Reclamation); Upper Sacramento River Fisheries and Riparian Habitat Management Plan (California Resources Agency); Sacramento River Riparian Atlas (California Department of Fish and Game); Shasta State Historic Park Management Plan (in process, California Department of Parks and Recreation); county general plans (Butte, Shasta, Siskiyou, Tehama and Trinity counties); community plans (City of Redding, Douglas City, Hayfork, Junction City, Lewiston, and Weaverville); BLM planning efforts in Medford and Klamath Falls, Oregon; and numerous coordinated resource management plans for deer herd management (California Department of Fish and Game, et. al).

BLM met or talked by phone to numerous agencies, organizations, and individuals in the preparation of land use management alternatives. Organizations and agencies consulted individually by BLM include:

Audubon Society	Louisiana Pacific Corporation
Butte County Board of Supervisors	Mendocino National Forest
Butte Creek Trails Council	Norelmuk (Hayfork) Wintu
California Department of Fish and Game	Pacific Gas and Electric
California Department of Forestry and Fire Prevention	Pacific Power and Light
California Department of Parks and Recreation	Pendola Enterprises, Inc.
California Interagency Natural Areas Coordinating Committee	Pit River Tribal Council
California Inter-Tribal Council	Plumas National Forest
California Native American Heritage Commission	Quartz Valley Indian Reservation
California Native Plant Society	Redding Dirt Riders
California Resources Agency	Redding Rancheria
Centerville Community Services District	Roseburg Resources Corporation
Champion International	Sacramento River Preservation Trust
City of Redding	Sacramento Valley Landowners Association
Clear Creek Natural History Preserve Committee	Shasta-Cascade Wonderland Association
County of Butte	Shasta County Peace Officers Association
County of Shasta	Shasta County board of supervisors
County of Siskiyou	Shasta Miners and Prospectors
County of Tehama	Shasta-Trinity National Forests
County of Trinity	Sierra Club
Crane Mills	Sierra Pacific Industries
Friends of the River	Siskiyou County Board of Supervisors
Fruit Growers Supply	Tehama County Board of Supervisors
Hayfork Miners	The Nature Conservancy
Klamath National Forest	Trinity County Board of Supervisors
Lassen National Forest	Trinity River Task Force-technical coordinating committee

Tyme Maidu tribe
 Ukiah District (BLM) citizens advisory council
 Upper Ridge Wilderness Association
 Upper Sacramento River advisory council
 U.S. Bureau of Indian Affairs
 U.S. Bureau of Reclamation
 U.S. Fish and Wildlife Service
 U.S. House of Representatives - Honorable Wally Herger
 U.S. National Park Service - Whiskeytown

Forest Supervisor, Six Rivers National Forest
 Regional Forester, U.S. Forest service
 Soil Conservation Service, Redding, CA.
 Soil Conservation Service, Yreka, CA.
 Supervisor, Whiskeytown National Recreation Area
 U.S. Army Corps of Engineers
 U.S. Environmental Protection Agency

CALIFORNIA STATE AGENCIES

California Department of Fish and Game
 California Department of Forestry and Fire Protection
 California Department of General Services
 California Department of Parks and Recreation
 California Department of Transportation
 California Department of Water Resources
 California Office of Historic Preservation
 California Office of Planning and Research
 California State Lands Commission
 California Water Quality Control Board
 Office of the Governor, California Native American Heritage Commission
 Office of the Governor, Resources Agency

LOCAL AGENCIES

Butte County, Board of Supervisors
 City of Chico
 City of Fort Jones

LIST OF AGENCIES, ORGANIZATIONS, AND INDIVIDUALS RECEIVING THIS DOCUMENT

Comments on the Draft RMP are requested from all interested individuals, groups, agencies, corporations and officials. The following list does not include each individual or corporation to whom a copy of the Draft Document was sent. The total mailing list consists of over 600 separate addresses and is available for review at the Redding Resource Area Office. A partial list of those receiving the document is as follows:

FEDERAL AGENCIES

Bureau of Indian Affairs
 Bureau of Reclamation
 Forest Supervisor, Klamath National Forest
 Forest Supervisor, Lassen National Forest
 Forest Supervisor, Mendocino National Forest
 Forest Supervisor, Modoc National Forest
 Forest Supervisor, Plumas National Forest
 Forest Supervisor, Shasta-Trinity National Forest

City of Mt. Shasta

City of Oroville, Board of Supervisors

City of Redding

City of Weed

City of Yreka

County of Shasta

Shasta County Board of Supervisors

Siskiyou County Board of Supervisors

Siskiyou County Planning Commission

Tehama County Board of Supervisors

Trinity County Board of Supervisors

Trinity County Planning Department

Ukiah District Advisory Board

NATIVE AMERICAN ORGANIZATIONS

Big Bend Rancheria

California Council of Tribal Government

Colusa Rancheria

Enterprise Rancheria

Grindstone Creek Rancheria

Mooretown Rancheria

Pit River Tribal Council

Redding Rancheria

Quartz Valley Indian Reservation

Wintu Education and Cultural Council

FEDERAL ELECTED REPRESENTATIVES

Congressman Wally Herger

Senator Alan Cranston

Senator John Seymour

STATE ELECTED REPRESENTATIVES

Assemblyman Chris Chandler

Assemblyman Stan Statham

Senator John Doolittle

Senator Mike Thompson

Governor Pete Wilson

INTEREST GROUPS

America Fisheries Society

Audubon Society

Cal Trout

California Mining Association

California Off-Road Vehicle Association

Defenders of Wildlife

Far West Anthropological Research Group

Friends of the River

National Outdoor Coalition

National Wildlife Federation

Natural Resource Defense Council, Inc.

Northern Sacramento River Council

Shasta Alliance For Resources and Environment

Sierra Club

Siskiyou County Cattleman's Association

Trust for Public Lands

Tehama Alliance for Resource and Environment

Western Mining Council

The Nature Conservancy

The Wilderness Society

LIST OF PREPARERS



LIST OF PREPARERS

STUDY TEAM

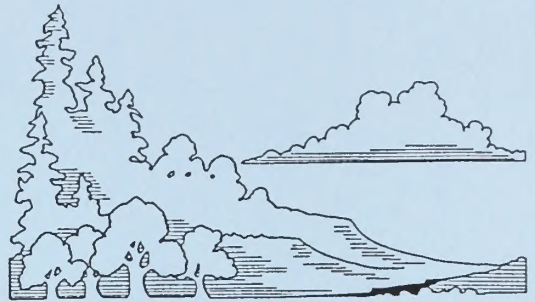
Name and Position	Qualifications	RMP Responsibilities
A. Barron Bail Chief, Lands & Resources	B.S. Range Forest Management, Colorado State University, Realty Specialist, Supervisor Tech Info. Specialist, Range Tech., 12 years BLM Nevada, Colorado, Oklahoma, California	Technical Coordination and Review
Francis Berg RMP Team Leader	University of California, Riverside B.A. Anthropology, Graduate Studies in Environmental Administration, 13 years with BLM, cultural resources, natural history, volunteers and planning.	Overall direction in development of RMP and leader of interdisciplinary team
Richard Estabrook Petroleum Engineer	B.S. Petroleum Engineering, Montana College of Minerals Science and Technology. 6 years with BLM.	Geothermal Reasonable Forseeable Development Scenario
Kenneth Holden Geophysicist	M.S. Geophysics, California State University, San Jose, 17 years U.S. Geological Survey, 7 years BLM.	Oil and gas Reasonable Forseeable Development Scenario.
Dick Johnson Fisheries Biologist	B.A. Biological Sciences, California State University, San Jose, 9 years California Department of Fish and Game, 20 years BLM in Alaska and California.	Fisheries habitat input.
Wayne King Lead Realty Specialist	B.S. Natural Resource Management BLM Realty School, 16 years with BLM.	Land tenure, trespass abatement.
Bill Lawhorn Wildlife Biologist	B.S. Wildlife Management, Utah State University. Hazardous Materials Training. 17 years BLM. 5 years U.S. Fish and Wildlife Service.	Wildlife, T&E Fauna, Hazardous Materials, Oak Woodlands, Riparian, Pre-Plan Contract, Desired Plant Community.
Howard Matzat Realty Specialist	B.S. Environmental Resources, CA State University at Sacramento, M.S. Recreation Administration,, 15 years with BLM.	Land use authorizations, land tenure adjustment, trespass abatement.
Joe J. Molter Natural Resource Specialist	B.S. Environmental Resources, Sacramento State University, Lassen County Department of Public Works, 13 years BLM.	Range, soil, water, air and sensitive plants.
Eric Morgan Forester	B.S. Natural Resources Management Cal Poly, San Luis Obispo, CA., U.S.D.A. Forest Service, Tahoe Regional Planning Agency, BLM.	Environmental Consequences Editor.

Name and Position	Qualifications	RMP Responsibilities
Eric Ritter Archaeologist	B.A. Anthropology, University of Arizona, M.A. & Ph.D. Anthropology, University of California, Davis (archaeology emphasis). 15 years BLM, 2 years University of California, 5 years California Dept. of Parks and Recreation.	Archaeology, History, Native American Values, Paleontology.
Ron Rogers Geologist	B.S. Geology, Florida State University, 12 years BLM.	Geology and minerals input. Wild and Scenic River Eligibility Study.
Steve Uhles Natural Resource Specialist	B.S. Forestry, Arkansas A&M College, 13 years U.S.F.S., 2 years State of Illinois, 11 years BLM California.	OHV Management, Fire Management, public involvement and consultation.
Joseph O.I. Williams Outdoor Recreation Planner	AAS Forestry, B.S. Outdoor Recreation Planning, 16 years BLM	Visual Resource Management, Wilderness, Recreation, Open Space
Kelly Williams GIS Coordinator	B.S. Forest Management, Stephen F. Austin University, 1 year U.S.F.S., 12 years BLM.	Forestry, GIS maps and data, document compilation
Paul Yull Wildlife Biologist	B.S. and M.S. Wildlife Management, California State University, Humboldt.	Spotted owls

SUPPORT TEAM

Name	Office	Title
Robert Barney	California State Office	Planning Coordinator
Terry Boudreau	California State Office	Cartographic Technician
David Cook	Redding Area Volunteer	Computer Specialist
Patty Cook	Redding Resource Area	Realty Specialist, Illustrator
John Coon	Redding Resource Area	Realty Specialist
Vicky Cox	Redding Resource Area	Administrative Clerk
Ilene Emry	Redding Resource Area	Realty Specialist
Marka Gibson	Redding Resource Area	Clerk-typist
Linda Hansen	Ukiah District Office	Planning Coordinator
Virgil Haven	California State Office	Cartographic Technician
Rose Lucero	California State Office	Cartographic Technician
John (Jack) Mills	California State Office	Environmental Coordinator
Joy Sanders	California State Office	Cartographic Technician
Barbara Taglio	Ukiah District Office	Public Affairs Specialist
May Wakabayashi	California State Office	Cartographic Technician

APPENDIX A
WILD AND SCENIC RIVER ELIGIBILITY AND
PRELIMINARY CLASSIFICATION REPORT



APPENDIX A

WILD AND SCENIC RIVER ELIGIBILITY

AND

PRELIMINARY CLASSIFICATION REPORT

INTRODUCTION

The BLM is mandated to evaluate potential additions to the National Wild and Scenic Rivers System (NWSRS) by Section 5(d) of the Wild and Scenic Rivers Act (WSRA) during the Resource Management Plan (RMP) process. NWSRS study guidelines are found in BLM Manual 8351, U.S. Departments of Agriculture and Interior guidelines published in Federal Register Vol. 7, No. 173, September 7, 1982, and in various BLM memoranda and policy statements.

The NWSRS study process has three distinct steps:

1. Determine what rivers or river segments are eligible for NWSRS designation.
2. Determine the potential classification of eligible river segments as wild, scenic, recreational, or any combination thereof.
3. Conduct a suitability study/legislative EIS to determine if the river segments are suitable for designation to the NWSRS.

Any river found to be eligible for inclusion in the NWSRS, will result in the associated BLM administered lands, within 1/4 mile of the river, being managed as if the river were an actual component of the NWSRS, until the suitability issue is resolved. If a river is found to be suitable for inclusion into the NWSRS, congress must then pass legislation designating the river before it is added into the system. The State of California can also include the river as a State designated Wild & Scenic River and then apply to the Secretary of Interior for its inclusion into the NWSRS.

The following discussion provides information on how BLM considered streams and rivers for potential inclusion in the NWSRS. The first section portrays what efforts BLM used to identify study river corridors. The second section discusses eligibility criteria. The third and fourth sections are brief statements on how BLM addressed classification and suitability, respectively. The majority of this appendix contains a description of the values within each study river corridor followed by a conclusion on eligibility and recommendation for preliminary classification.

IDENTIFICATION

Prior to conducting any assessment for inclusion in the NWSRS, BLM established a list of study river corridors. BLM considered existing lists of such river corridors (i.e., the Nationwide Rivers Inventory and Outstanding Rivers List), public input, and BLM staff nominations. Fourteen corridors were identified for study as a result of that process. These corridors include: Battle Creek, Beegum Creek, Big Chico Creek, Butte Creek, Clear Creek, Cottonwood Creek, North Fork Cottonwood Creek, Middle Fork Cottonwood Creek, South Fork Cottonwood Creek, Deer Creek, Mill Creek, Paynes Creek, Sacramento River, and Shasta River. These study corridors are generally well known and have significant public ownership.

Streams lacking public lands administered by BLM were not considered for analysis. BLM also considered and rejected numerous streams from further analysis if: public ownership was limited; BLM resources information was sufficient to identify the lack of outstandingly remarkable values/free-flowing characteristics; or

streams were essentially similar to corridors already identified for consideration within the general vicinity. A listing of these rejected streams by county include:

BUTTE

Tributaries of Butte Creek, tributaries of the Feather River, Little Chico Creek, Mud Creek, tributaries of South Fork Battle Creek

SHASTA

Andrews Creek, Ash Creek, Bear Creek (and tributaries), Clear Creek (and tributaries) above Whiskeytown Lake, Cow Creek (and tributaries), Duncan Creek (and tributaries), Jerusalem Creek, Middle Creek, Montgomery Creek, North Fork Battle Creek, Olney Creek (and tributaries), tributaries of the Pit River, Rock Creek, Salt Creek, Spring Creek.

SISKIYOU

Brush Creek, Brushy Gulch, Cottonwood Creek, Dry Creek, Duzel Creek, French Creek, Greenhorn Creek, Indian Creek, Kidder Creek, McAdam Creek, McConoughy Gulch, Meadow Gulch Creek, Noyes Valley Creek, Patterson Creek, Scotch Creek, Shovel Creek, Slide Creek.

TEHAMA

Antelope Creek, Brush Creek, Elder Creek (and tributaries), Inks Creek, Pine Creek, Red Bank (and tributaries), Rock Creek, Sevenmile Creek, and the tributaries of South Fork Cottonwood Creek, Stinking Creek, Thomes Creek (and tributaries), Wells Creek, Zimmershed Creek.

TRINITY

Carr Creek, Deadwood Creek, Indian Creek, Rush Creek, Sheridan Creek, Weaver Creek.

ELIGIBILITY

The WSRA states that to be eligible for inclusion in the NWSRS, a river or river segment must be free flowing and with its immediate environment, must possess one or more outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values.

Free flowing, as defined in Section 16(b) of the WSRA, means "existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures at the time any river is proposed for inclusion in the national wild and scenic river system shall not automatically bar its consideration for such inclusion." A river may flow between large impoundments and may qualify if conditions within the segment meet the eligibility criteria. There are many river segments already in the NWSRS which are downstream from or between major dams which severely regulate and diminish the flow of water in the effected segments. Some examples are: the Trinity River, Klamath River, and Tuolumne River in California, the Snake River in Idaho, and the Deschutes River in Oregon. Some of these rivers have had certain types of recreation enhanced by the water flow regulation of these dams. Examples of designated rivers with substantial diversions within the NWSRS segment, at the time of designation, include the North Fork Kern River and the upper Merced River, both in the California Sierra. There are no minimum flow requirements for inclusion into the NWSRS.

There are no minimum river segment lengths in the NWSRS. Congress has designated a segment as short as 4.25 miles. Considerations in defining study segments include substantial changes in land ownership, physical changes in the river and its surrounding land characteristics, and the type and amount of modern human modification.

The term "outstandingly remarkable" is not clearly defined in the WSRA; consequently the determination of what constitutes "outstandingly remarkable" is left to the professional judgement of the managing agencies and their staffs. Outstandingly remarkable means something which is more than ordinary when considered within a regional (Resource Area wide) context. In order for the river to be considered eligible in this study, the outstandingly remarkable value(s) must occur on BLM administered public lands within 1/4 mile of the river.

Some examples of outstandingly remarkable values are as follows: scenic quality rating of "A" (BLM Manual 8400 Visual Resource Management-Scenic Quality); threatened or endangered species critical habitat; physiographical, biological, recreational, geological or ecological type locations (exemplar); and areas which are very natural or primitive in character, showing little, if any, evidence of modern human modification, and

which may be very rugged and physically challenging to travel through.

If an outstandingly remarkable characteristic occurs anywhere within the segment, that characteristic is underlined. If the outstandingly remarkable characteristic identified occurs on BLM administered lands, the category and characteristic are marked with an asterisk (*).

Streams and rivers containing study corridors may include segments that have no present BLM administered lands adjoining them. This study does not offer any eligibility conclusions in these instances. Segments or corridors deemed ineligible in this study because of lack of outstandingly remarkable values on BLM administered lands, may have outstandingly remarkable values on non-BLM lands. In this instance, BLM defers to other appropriate organizations and agencies to (re)evaluate these segments and corridors. BLM would participate in any joint studies with the responsible agency(s), as appropriate.

CLASSIFICATION

To ensure that outstandingly remarkable values located on public lands are not adversely impacted by BLM authorizations, each eligible study corridor has been assigned preliminary classifications. These classifications are described by segments of each eligible study corridor with similar characteristics of development, access, water quality, and definable geographic boundaries.

These preliminary classifications are based upon the classification definitions found in Section 2 (b) of the Wild and Scenic Rivers Act, Public Law 90-542 of October 2, 1968 (see GLOSSARY for the classification definitions as they are contained in the Act and subsequent Federal regulations). The preliminary classification(s) and rationale for these classifications are found at the end of the eligible discussion for each eligible study corridor.

SUITABILITY

Suitability determinations for inclusion in the NWSRS will be completed when BLM develops activity plans for the management of high priority areas which encompass eligible corridors (i.e., Battle Creek below Manton Road, Butte Creek, Clear Creek, Deer Creek, Paynes Creek, Sacramento River, and Shasta River).

A suitability determination for Beegum Creek is deferred until long term Federal administration is resolved, i.e., impending transfer to the Trinity National Forest. The remainder of eligible study corridors contain small amounts of public lands. Suitability determinations for these corridors are deferred until BLM is able to consult the parties affected by these determinations, i.e., state agencies, local government, and private landowners. These corridors include Battle Creek above Manton Road, North Fork Cottonwood Creek, Middle Fork Cottonwood Creek, South Fork Cottonwood Creek and Mill Creek.

BATTLE CREEK

The study corridor starts at the Ponderosa Way Bridge below the confluence of Panther Creek with South Fork Battle Creek, seven air miles west of Mineral, California. South Fork Battle Creek flows westerly to the confluence with the North Fork Battle Creek at the Shasta-Tehama County line. Battle Creek continues along this boundary, west to its termination at the Sacramento River. Development on this corridor consists of the Battle Creek Hydroelectric Project facilities, the Coleman Fish Hatchery, transient hunting and fishing camps and occasional road and utility crossings. Most of the BLM administered lands, scattered along the study corridor, are located on the South Fork. Refer to MAP 3-6b and MAP 3-8b (in packet) for the location of this study corridor.

Total Miles/BLM Miles. 39.7/ 4.9

Free Flowing Discussion. Three major water diversions occur on the study corridor: South, Inskip, and Coleman. These small dams divert water into canals to feed the downstream power houses of the same names. During the summer and fall months, most of the water in the drainage is diverted through these canals, leaving behind minimal "fish flows". During the normal high flows of the winter and spring, the proportion of water diverted from the creek drops to much less than half. These small dams impound virtually no water and, in spite of the seasonally large water diversions, the overall study segment can be considered free flowing.

Cultural/Historic Values. Within the canyon are remnants of the "Battle Creek Hydroelectric System" of the historic American Engineering Record and National Register of Historic Places. These ruins are all that remain of this hydroelectric system, the first built in the region. There is a medium-sized undisturbed midden

mound within South Fork canyon of high importance, along with rock shelters and other prehistoric sites.

Fisheries. Battle Creek is an extremely important site of anadromous fish spawning, which is generally limited to the portion of the creek below the Coleman National Fish Hatchery. Upstream diversions of the Battle Creek Hydroelectric Project have all but eliminated spawning above the Coleman Powerhouse. Native and introduced trout are present in the upper reaches.

Physiography/Geology. Battle Creek has eroded its way through the Cenozoic volcanic deposits and volcanically derived sediments of the Cascade Range and associated flows out onto the Sacramento Valley. Most of the rock exposed is considered to be Quaternary to Tertiary in age. South Fork starts out in a large meadow south of Mineral, but soon enters South Fork canyon, a 1000 to 2000 feet deep rocky gorge with limited access. By the time the South Fork joins North Fork Battle Creek, the surrounding country is much lower and gently rolling. Here, Battle Creek has incised its way down 200 to 500 feet. When the creek enters the Sacramento River flood plain, it is slow and meandering through the flat low-lying alluvial sediments.

Recreation. * Float tubing is popular below the Coleman Power plant where access and sustained water flows are available. Trout fishing is common above Coleman Fish Hatchery where access is available. Whitewater rafting and kayaking are growing in popularity on that portion from the Coleman Diversion Dam on the South Fork, down to Coleman Power Plant. Because of the water diversion out of the creek, flows are only adequate in the winter and spring after heavy storms and during snow melt. * Floating this portion gives the boater a primitive type of experience because of the general lack of human intrusions that can be seen from the creek and pristine condition of the riparian corridor. This portion of white water has a difficulty rating of Class III to IV (See River Difficulty Rating in Table A-1 at the end of this appendix). * It is considered to be a classic boating run of this difficulty because of the overall quality of the experience, i.e. the scenery, rapids, seclusion, and naturalness. Below the Coleman Power Plant the creek is a Class I to II.

Vegetation. Lush riparian vegetation fills the bottom of this narrow canyon. Along the lowest 5 to 6 miles, below the Coleman Fish Hatchery, the creek starts to meander and the zone of riparian vegetation increases until a classic old-growth riparian ecosystem is reached in the Sacramento River flood plain. Valley oak-brush-

land vegetation covers the side slopes and rims of the lower canyon. The South Fork canyon is characterized by the transition to a oak-conifer, and near the headwaters, a mixed conifer type of vegetation. Some public land parcels contain large stands of mature conifers.

Scenic Quality. * The scenic quality of this creek has been rated as an "A".

Water Quality. Water quality is good to excellent.

Wildlife. Battle Creek provides excellent but limited nesting areas for several species of raptors, including prairie falcons, red tailed hawks, turkey vulture and golden eagles. Bald eagles have been observed nesting along the lower reaches of the creek. Other wildlife species include bobcat, mountain lion, blacktailed deer, mink and raccoon.

Socio-Economic Uses. The two major uses of Battle Creek are hydroelectric generation and anadromous fish spawning. The Battle Creek Project consists of five powerhouses, two storage reservoirs, three forebays, six diversions, numerous tributary diversions, and a network of some 20 canals, flumes, ditches, and pipelines. (Some of these are associated with North Fork Battle Creek). Even though these flumes and ditches parallel the creek, they are usually not visible from the creek itself. Fall Chinook salmon runs averaged 25,000 in the 1980s. This occurred primarily in the Coleman Fish Hatchery and in the downstream creek segment. Cattle grazing is prevalent in this region. Timber harvesting has probably occurred near the upper reaches of the creek.

Eligibility Conclusion: ELIGIBLE

CLASSIFICATION

Battle Creek has been subdivided into four sections for preliminary classification. The segment between Ponderosa Way Bridge and Manton Road Bridge is RECREATIONAL since this section is dominated by hydroelectric development including low dams, diversions, utility lines, and appurtenant service roads. The segment between Manton Road Bridge and the major bend 1/4 mile upstream of the Coleman powerhouse is SCENIC since the canyon is largely primitive undeveloped shoreline with limited accessibility. The segment between the major bend 1/4 upstream of the Coleman powerhouse and Jelly's Ferry Road Bridge is RECREATIONAL because there are diversions and shoreline development, as well as several road access points. The section between Jelly's Ferry Road Bridge

and the Sacramento River is SCENIC because there are no impoundments and the shoreline is undeveloped with the exception of a potentially historic abandoned building.

BEEGUM CREEK

Beegum Creek flows from west to east and forms the natural boundary between Shasta and Tehama Counties. The creek starts at the source of the Middle Fork Beegum Creek, near the Trinity-Tehama County boundary, and ends at the confluence of Beegum Creek and Middle Fork Cottonwood Creek. The study corridor consists of the middle 4.4 miles of mostly BLM managed lands within Beegum Gorge beginning at the Trinity National Forest boundary and ending at Highway 36 (MAP 3-10a in packet).

Total Miles/BLM Miles. 4.4/ 4.4

Free Flowing Discussion. There are no known diversions or impoundments on Beegum Creek. The creek has year-round flows.

Cultural/Historic Values. Remains of early chromite and placer gold mining.

Fisheries. Resident Rainbow trout, steelhead and spring run Chinook salmon.

Physiography/Geology. The study corridor and the segment above within the Trinity National Forest are mostly in a moderate to steep walled narrow gorge, over 2000 feet deep in places. The creek bed is filled with large boulders and contains many deep pools and numerous waterfalls. Below the study segment Beegum Creek becomes a moderately wide canyon with gentle slopes and canyon depths of up to a few hundred feet. The creek bed here consists of cobbles and gravels. The upper and middle segments flow through the Paleozoic metasediments and Mesozoic ultrabasic (serpentine) rocks of the Klamath Mountains geologic province. The lower segment is in the Sacramento Valley and cuts into Cretaceous age sedimentary rocks and alluvial deposits.

Recreation. * Fishing is the primary recreational use of Beegum Creek. The U.S. Forest Service maintains a campground along the creek in the upper segment. Some swimming and tubing probably occur in the accessible portions during the summer. * Beegum Creek Gorge offers a natural primitive type of outdoor experience to the hiker willing to scramble over the rugged

terrain in the canyon bottom. The upper and middle segments probably contain un-boatable whitewater and the lower segment probably has a difficulty rating of Class II (refer to Table A-1).

Vegetation. The lower canyon contains lush riparian vegetation and has brushy oak woodland in the associated uplands. The remainder of the study corridor has a sparse riparian zone due to the deeply incised nature of the canyon. The steep slopes contain brushy oak woodland grading up into oak-conifer woodland as the headwaters are approached.

Scenic Quality. * The land polygon containing Beegum gorge has a "B" scenic quality rating. This evaluation discounted the narrow Beegum Gorge and focused on the drab, brush-covered, adjoining uplands. * Evaluating just the river corridor itself, it is estimated to have a scenic quality rating of "A".

Water Quality. Good to excellent

Wildlife. Wildlife species are typical of the annual grasslands and chaparral ecosystems. These species include black-tailed deer, mountain lion, bobcat, coyote, wild turkey, valley and mountain quail. Bald eagles probably use the lower part of the stream during the winter and spring months for food gathering.

Socio-Economic Uses. Several ranches occur along the lower segment of the creek. Fences cross the creek in several places. Timber harvest has probably occurred along the upper segment. Chromite mining has occurred along the upper and possibly middle portions of Beegum Creek during the 1930s and 1940s.

Eligibility Conclusion: ELIGIBLE

CLASSIFICATION

Beegum Creek between the Trinity National Forest boundary and Highway 36 is classified as WILD because it is free of impoundments, has no shoreline developments, and is accessible only at the ends of the segment.

BIG CHICO CREEK

Big Chico Creek starts in Chico Meadows and flows in a south-southwesterly direction towards Chico, California. BLM managed public lands are located in the middle segment of this creek, therefore, the study corridor is defined as that portion of the creek from Ponderosa Way bridge upstream to the unnamed road

crossing in T. 25 N., R. 3 E., Section 29 (MAP A-1). The Lassen National Forest manages approximately one mile of Big Chico Creek above this study corridor. They have deferred an eligibility determination due to a lack of public lands.

Total Miles/BLM Miles. 8.5 / 1.7

Free Flowing Discussion. The study corridor is free flowing with no known major impoundments.

Cultural/Historic Values. There are no known outstanding values. Remnants of the Chico Flume, which was used for transport of lumber, are located in this canyon.

Fisheries. Some trout and anadromous fish.

Physiography/Geology. Big Chico Creek starts in the southernmost portion of the Cascade Range in Cenozoic volcanic rocks. About half way downstream in the study corridor, the creek has eroded down through thousands of feet of Tertiary in age volcanic rock into the underlying Sierra Nevada basement rock. Exposed along the middle segment are Tertiary auriferous stream channels and their associated drift mines, perched above the present creek bed, cross-cutting ultramafic intrusives, and representative geology of the Sierras. The upper portion of the creek is in a canyon of moderate relief, but then it gradually becomes incised into a steep narrow box canyon bounded by volcanic walls.

Recreation. Fishing, swimming in deep pools, and limited tubing, mostly in the lower segment. Much of the study corridor is in a remote, natural setting, offering the user opportunities for primitive types of recreation.

Vegetation. The upper reaches are in an expansive mixed conifer forest with scattered meadows. This transforms with a decrease in elevation to an oak woodland with chaparral in the lower portions of the study corridor. A thin belt of riparian vegetation is common along much of the stream.

Scenic Quality. Overall scenic quality rating has been determined to be a "B".

Water Quality. Good to excellent.

Wildlife. Wildlife species found in this stream are typical of riparian habitats in the oak woodland ecosystem and the chaparral ecosystem. Some of these

species are mountain lion, bobcat, coyote, gray fox, gray squirrel, ring-tailed cat, raccoon, valley quail, common mergansers, wood ducks, black-tailed deer and a few black bears.

Socio-Economic Uses. Recreation, cattle grazing, placer mining.

Eligibility Conclusion: NOT ELIGIBLE

BUTTE CREEK

Butte Creek is located between Chico and Paradise in Butte County, California. The study corridor is defined as starting at its confluence with West Branch Butte Creek and flowing southerly to the joining of Butte Creek and Little Butte Creek (MAP A-1). Other portions of the creek were not studied because of the paucity of BLM administered lands. The upper 14.2 miles is best characterized as a deep canyon, with the creek sometimes in steep narrow inner gorges. Most of this upper segment is undeveloped with only an occasional house, bridge crossing, or small diversion dam impacting the creek. In contrast, the lower 4.8 miles below the Centerville bridge crossing, is relatively open, with many houses and placer tailings piles along the banks.

Total Miles/BLM Miles. 19.0 / 4.9 (Upper Segment: 14.2 / 4.4; Lower Segment: 4.8/0.5)

Free Flowing Discussion. Butte Creek is a free flowing creek of 20 to 50 feet in width and steep gradient. Water is diverted out of Butte Creek (above the study corridor) into the Butte Creek Canal. This water flows back into the creek at the DeSabra Power House. One thousand feet below DeSabra Power House, water is diverted into the Lower Centerville Canal which flows down to the powerplant at Centerville, 2000 feet upstream of the Centerville bridge. An additional diversion is planned approximately 1400 feet below Ponderosa Way bridge. This will divert water into an underground tunnel down to DeSabra Power House. Even though water is diverted from above and within the study corridor, the remaining water within the segment remains free flowing. Typical winter and spring flows are of such a magnitude that it is difficult to ascertain that any water is being diverted from the stream channel. Existing and planned diversions impound such minuscule portions of the creek that these appear just as other slow moving portions of the creek.

Cultural/Historic Values. * Butte Canyon was an important gold mining area in the last half of the 1800s and

in the early part of the 1900s. * Helltown, Diamondville, Centerville and Forks-of-Butte were important mining communities which sprang up along the creek. Some of the attendant historic remains are considered to be unusual or outstanding and some occur on public lands along the creek. Ancient buried gold-bearing stream channels were mined via numerous underground drift mines, in the canyon slopes above the creek. Remains of early hydroelectric development are also found in this corridor.

Fisheries. Butte Creek supports a high value resident native rainbow trout, brown trout, and in the lower portions, chinook salmon population. Creek segments on public lands contributes to these species.

Physiography/Geology. * Butte Creek has eroded down through thousands of feet of Tertiary age volcanic rock into the underlying Sierra Nevada basement rock. * Exposed along this corridor are outstanding examples of: Tertiary auriferous stream channels and their associated drift mines, perched above the present creek bed; cross-cutting ultramafic intrusives; and exemplary geology of the northern Sierra. * Much of the canyon's upper segment is steep and rugged, with sheer canyon walls and abrupt rock pinnacles. * The water in the upper segment flows over a boulder-covered bed with many spectacular waterfalls in the creek and, after winter rains, waterfalls dropping into the creek from side drainages. The lower segment is much more open, with numerous gravel bars and placer tailings piles.

Recreation. * Much of the accessible portions of the creek are used for placer gold collection (panning, sluicing, and suction dredging), fishing, swimming, hiking, sunning, picnicking, nature study, tubing, and limited whitewater boating. * The diversity and high quality of these recreational experiences is an outstandingly remarkable feature. A well used hiking trail parallels the upper portion on the west side of the creek. Other creek portions contain various trail segments of lesser use. Whitewater boating is light and generally limited to the portions below DeSabra Power House, where the river is rated as Class IV to VI (refer to Table A-1) down to Helltown, and Class III to IV down to Centerville Bridge, and Class I to II to the end of this segment. Spring and summer tubing is very popular below Centerville Bridge. * Hiking and boating in the undeveloped upper segment canyon setting can give the user a rugged primitive type of adventure.

Vegetation. The vegetation is a very diverse mixture of oak-woodland chaparral, mixed conifers, and

riparian. Timber has been selectively harvested from within the canyon in the past. riparian vegetation is most abundant in the lower portions where the creek bottom is wider and more alluvial is present to support this type of growth.

Scenic Quality. * The upper segment has a scenic quality rating of "A". The lower segment is probably of "B" scenic quality.

Water Quality. Water quality is good to excellent.

Wildlife. Wildlife species found in this stream are typical of riparian habitats in the oak woodland ecosystem and the chaparral ecosystem. Some of these species are mountain lion, bobcat, coyote, gray fox, gray squirrel, ring-tailed cat, raccoon, valley quail, common mergansers, wood ducks, black-tailed deer and a few black bears.

Socio-Economic Uses. Placer mining still occurs in and along Butte Creek in the form of suction dredging, sluicing, and some mining of the high benches. Residential development is increasing rapidly along the lower segment. Timber harvesting has occurred in Butte Creek canyon.

Eligibility Conclusion: Upper Segment - ELIGIBLE
Lower Segment - NOT ELIGIBLE

CLASSIFICATION

The segment of Butte Creek between its confluence with the West Branch and the Centerville Bridge has a preliminary classification as SCENIC. The segment contains two minor bridge crossings and a small hydroelectric facility (De Sabla powerhouse). Another low-head hydroelectric facility has been previously approved. This development is designed to conform with the natural setting and to divert yet not appreciably impede stream flow. This and the existing impoundment are regarded as minimal in context of the entire segment. Similarly, scattered dwellings along the corridor do not appreciably affect the visual setting of the Creek.

CLEAR CREEK

Clear Creek is located five miles southwest of Redding, California. The study corridor starts below Whiskeytown Dam at the boundary of the Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area (NRA), and terminates at the confluence with the

Sacramento River. The study corridor consists of a canyon and a valley segment (MAP 3-5a in packet) and MAP A-2, respectively). The uppermost river segment (Whiskeytown segment) occurs within the NRA and is administered by the National Park Service (NPS). The canyon segment starts at the NRA boundary and flows south to the Clear Creek Road bridge crossing. The valley segment flows in an easterly direction to the Sacramento River.

Total Miles/BLM Miles. 13.6 / 1.1 (Canyon Segment: 5.3 / 0.5; Valley Segment: 8.3 / 0.6)

Free Flowing Discussion. Clear Creek flows are heavily regulated by Whiskeytown Dam, which allows approximately 15% of Clear Creek's natural flow to go downstream. Below this dam, flow is unimpeded until McCormick-Saeltzer dam is encountered near the head of Clear Creek Valley. This small dam has its reservoir filled with sediments and stores little if any water. Water flows over this dam year-round.

Cultural/Historic Values. Gold was discovered in Shasta County at the end of Clear Creek valley at Readings Bar. The early mining town and district of Hometown was centered northeast of this bar. Public lands within 1/4 mile of the creek contain examples of early high bench placer mining and interesting ditch construction through the Nomlaki Tuff Formation.

Fisheries. Fisheries in Clear Creek have been massively impacted by the reduced stream flows from Whiskeytown Dam, past placer gold dredging and recent sand and gravel mining in Clear Creek valley. McCormick-Saeltzer Dam also impedes any anadromous fish migration past this point. Clear Creek supports an average run of about 2,000 salmon and a few steelhead.

Physiography/Geology. The first 9.3 miles of Clear Creek flows through steep rugged canyon terrain. The creek bed contains boulders and is plugged with large boulders at several points. Quiet pools are separated by fast water and small rapids. At Clear Creek Road bridge, the creek enters a wide alluvial valley, heavily modified by past bucketline and dragline dredging for placer gold. Large extensive tailings piles have been left behind in most of the valley bottom. A small rocky gorge is located immediately below McCormick-Saeltzer Dam. The geology in the canyon is that of the Klamath Mountains, locally consisting of igneous intrusives, metasedimentary and metavolcanic rock types. The geology of the valley is alluvium covered, with some

intrusives, metamorphics, and sedimentary rocks along the periphery of the corridor.

Recreation. * Clear Creek is heavily used during the warmer months by Redding area residents for swimming, picnicking, tubing, sunning, hiking, and gold panning. Important locations for these activities are: Whiskeytown NRA, Placer Street bridge, Clear Creek Road bridge, and in the McCormick-Saeltzer Dam area. Trout fishing is popular along its accessible portions. Tubing takes place throughout the corridor. Whitewater kayaking, has occurred in the upper two segments, with difficulty ratings ranging from Class II to IV (refer to Table A-1). There are some non-navigable drops between Stoney Gulch and Placer Street bridge. Below Clear Creek Road bridge, the water is probably a I to II rating, except in the short canyon below Saeltzer Dam. * An unspoiled primitive type of outdoor experience can be obtained by hiking or floating along many of the portions of the creek between Whiskeytown Dam down to the Clear Creek Road bridge. In their Final Master Plan (July, 1976), the NPS has designated most of the Whiskeytown segment, and * that portion of the canyon segment above Stony Gulch, as an "outstanding natural area". The remainder of the canyon segment is of the same general character as the NPS designated area. The NPS management emphasis and designated use for this area is for "public appreciation and interpretation of geological or ecological features possessing unusual intrinsic value or uniqueness". A hiking trail is planned to be built along this unique creek, with legislative authorization given to the NPS to acquire land and easements down to the Placer Street bridge.

Vegetation. Riparian vegetation is common along most of the creek, but has been seriously disturbed by placer mining in the valley portion of the segment. The adjoining canyon highlands are covered with digger pine, manzanita, and chamise.

Scenic Quality. * That portion of the creek above Clear Creek Road bridge warrants an "A" in scenic quality. Below this bridge, the river is heavily impacted by historic placer gold mining and more recent sand and gravel excavation. The average scenic quality rating there is "B" or "C".

Water Quality. Water quality is expected to be good to excellent in the upper reaches and good in the lower valley.

Wildlife. The wildlife is typical of northern Sacramento Valley foothills and includes: deer, bear, ringtail cats, and wild turkey.

Socio-Economic Uses. Clear Creek valley is being heavily used for industrial purposes, with gravel extraction and processing being the predominate use. Residential development is scattered within the corridor. Recreation use is very important for the local residents and nationally as part of the NRA. Roads and utility lines cross the study corridor in many places. Small scale placer gold mining in the creek and on adjacent dry land deposits, occurs on a routine basis. Clear Creek valley also receives a large amount of illegal activities such as trash dumping, camping violations, and general rowdiness.

Eligibility Conclusion: Canyon segment - ELIGIBLE, Valley Segment - NOT ELIGIBLE

CLASSIFICATION

Clear Creek is SCENIC throughout the eligible segment. There are no impoundments, shoreline developments, railroads or paralleling roads and only one high span bridge (Placer Road) crossing the creek.

COTTONWOOD CREEK

Cottonwood Creek is the major tributary to the Sacramento River in the Redding Resource Area. It flows easterly along the Shasta-Tehama County boundary and has three forks, the North, Middle, and South Forks. Cottonwood Creek proper starts at the confluence of the North and Middle Forks and continues downstream past Cottonwood, California to its mouth on the Sacramento River. The study corridor consists of the segment of the creek below the bridge (MAP A-3).

Total Miles/BLM Miles. 5.4/0.4

Free Flowing Discussion. There are no known impoundments. During the summer and fall, a major sand and gravel mine diverts the low stream flow with temporary dikes, out of the mining area in the creek bottom.

Cultural/Historic Values. There are no known significant values.

Fisheries. Cottonwood Creek is an important supplier of spawning gravels to the Sacramento River, and is itself, used for anadromous fish spawning.

Physiography/Geology. Cottonwood Creek meanders through the low rolling hills of the Sacramento Valley, depositing large gravel bars along its entire length. These hills are formed by Quaternary and Recent in age sediments deposited by past alluvial action.

Recreation. Fisheries, swimming, tubing(?), canoeing. The creek is probably a Class I to II (refer to Table A-1) in paddling difficulty.

Vegetation. Cottonwood Creek contains varying amounts of riparian vegetation depending on the amount of modification by man. The BLM parcel contains a well developed cottonwood forest and a small population of the Federal Candidate plant species, Cryptantha crinita, in the flood plain. The adjacent uplands are brush and grasslands.

Scenic Quality. The scenic quality is estimated to be "B" to "C".

Water Quality. The water quality is expected to be good to fair.

Wildlife. Wildlife species along Cottonwood Creek will be those primarily associated with annual grasslands in the lower reaches and oak woodlands and chaparral in the upper reaches. These species include black-tailed deer, mountain lion, bobcat, coyote, wild turkey, valley and mountain quail. Bald eagles use the stream during the winter and spring months for food gathering purposes.

Socio-Economic Uses. The creek in the immediate vicinity of Cottonwood is extensively used for sand and gravel mining and as a crossing point for many transportation routes and utilities. Upstream, gravel mining has occurred on an intermittent basis. Fisheries production occurs in the creek and through downstream migration of spawning-sized gravels into the Sacramento River.

Eligibility conclusion: NOT ELIGIBLE

NORTH FORK COTTONWOOD CREEK

North Fork Cottonwood Creek occurs in southwestern Shasta County, 10 to 20 miles west of Anderson, California. It flows in a generally southeasterly direction and comprises one of three forks of Cottonwood Creek, a major tributary of the Sacramento River. The study

corridor is defined as that portion of North Fork Cottonwood Creek within the ten mile long upper canyon above Platina Road.

All BLM administered lands occur within this portion of the creek (MAP 3-5a (In packet) in the upper canyon.

Total Miles/BLM Miles. 10.1 / 2.4;

Free Flowing Discussion. A substantial diversion dam, one mile below Misselbeck Dam, diverts water into an underground aqueduct for Irrigation purposes in the Igo-Ono area. Two low-head dams are known to exist, one approximately two miles upstream of the Platina Highway, and the other approximately one mile upstream of Lower Gas Point Road. There are no other major impoundments on the study section and even at low summer flows, the creek is free flowing.

Cultural/Historic Values. One reported prehistoric village site is located on BLM public land. There are scattered mining features, primarily placer tailings in the lower segment. Some underground mining and related features occur in the upper canyon on BLM public land.

Fisheries. North Fork Cottonwood Creek contains a native trout and anadromous fishery and supplies gravels for spawning downstream.

Physiography/Geology. The North Fork flows out of the Klamath Mountains into the Sacramento Valley. Upstream of the Platina road, the canyon is deep and steep. Cataracts and large rapids are common in this upper segment. Between Platina and Lower Gas Point roads, the canyon is more open and the creek bottom is ledgy to bouldery in character. Below Lower Gas Point Road, the river meanders through a wide river channel amidst coarse placer tailings. Jerusalem Creek is a major tributary of the North Fork. The rocks exposed in the Klamath Mountains include granites, serpentine, and schist. Entering the Sacramento Valley, Cretaceous in age sandstones, shales, and mudstones are exposed along with more recent alluvial type deposits. Vertical sandstone dikes within the Cretaceous rocks crop out within the river canyon. Reportedly the best Ammonite fossils in North America can be found in the rock cut by the Cottonwood Creek drainage in the middle and lower segments.

Recreation. * Fishing is the main recreational use of the creek. Some summer swimming and tubing also occurs. Very limited whitewater kayaking has occurred in the upper canyon because of its steep gradient. This segment probably warrants a class IV to VI difficulty rating. * It is an unspoiled primitive type of setting in the bottom of this canyon, suitable for rugged "backcountry" hiking and expert kayaking. The middle canyon is floated more often, in the winter and spring, and is rated as Class III to IV (refer to Table A-1). The lower portion is relatively easy and rates a Class I to II.

Vegetation. Dense riparian vegetation in portions of the upper canyon and along scattered segments in the lowlands. Oak-conifer-brushy woodlands are in the upper canyon area, while brushland, scattered oaks, and grassland predominate in the Sacramento Valley.

Scenic Quality. * The upper canyon has scenic quality rating of "A", the middle segment an estimated "A" or "B", and the lower segment a probably "B" rating.

Water Quality. The water quality is probably good. Misselbeck Dam acts as trap for the highly erosive decomposed granite soils upstream.

Wildlife. Wildlife species along North Fork Cottonwood Creek will be those primarily associated with annual grasslands in the lower reaches and oak woodlands and chaparral in the upper reaches. These species include black-tailed deer, mountain lion, bobcat, coyote, wild turkey, valley and mountain quail. Bald eagles and other raptors use the lower part of the stream for food gathering purposes.

Socio-Economic Uses. The study corridor contains water diversions for irrigation purposes, ranching in the middle and lower sections, fishery production facilities, minimal mining, and scattered residential dwellings.

Eligibility Conclusion: ELIGIBLE

CLASSIFICATION

The segment of North Fork Cottonwood Creek between Misselbeck Dam and Platina Highway Bridge is classified as SCENIC. This segment includes two minor low-head diversion dams, and a few scattered houses, however, the corridor has an essentially undeveloped shoreline accessible only in a few places by roads. The overall condition of the segment is largely primitive and undeveloped.

MIDDLE FORK COTTONWOOD CREEK

Middle Fork Cottonwood Creek flows east out of the lowermost portion of the Klamath Mountains down into the Sacramento Valley due east of Anderson, California. The 30.4 mile long Middle Fork can be divided into three segments: the uppermost, from its source down to the Highway 36 bridge; the middle segment from the Highway 36 bridge down to the Platina Highway bridge; and the lowermost section, from the Platina Highway down to the confluence with the North Fork Cottonwood Creek. Beegum Creek is the major tributary to the Middle Fork with the confluence in the lower segment. The upper segment is primarily public land administered by the U.S. Forest Service, and the lowermost is exclusively in private ownership. Forty-four percent of the middle segment is under BLM administration. This middle segment comprises the study corridor (MAP 3-10a in packet).

Total Miles/BLM Miles. 2.4 / 5.5

Free Flowing Discussion. The Arbuckle Mountain 400 kilowatts hydroelectric facility, with associated dam, is located in the middle segment (T.30 N., R.9 W., Sec. 33) on private lands. Approximately 1/4 mile of the creek can have most of its water diverted from it during low summer and fall flows. The creek was not dewatered when this facility was observed from the air on January 24, 1990. There are no other known major diversions or impoundments.

Cultural/Historic Values. There are no known important cultural or historic values.

Fisheries. The Middle Fork Cottonwood provides spawning gravels for downstream areas and fish habitat along its length.

Physiography/Geology. With the exception of the Platina area, the upper and middle segments are in steep narrow mountainous gorges with steep rock creek gradients. In the area around Platina, the creek drainage opens up into a grass covered valley. The lower segment opens up into the Sacramento Valley where the creek meanders through foothills with a relatively gentle gradient. The upper and middle segments are primarily in Paleozoic age metasedimentary rocks of the Klamath Mountains Geologic Province. The lower segment enters the Sacramento Valley and cuts into Cretaceous age sedimentary rocks, primarily sandstones and shales. This lower portion probably contains rare

sandstone dikes exposed within the low canyon walls of the stream channel. The Cretaceous age sedimentary rocks also contain deposits of Ammonite fossils, described as "the best in North America".

Recreation. * Fishing and floating are the primary forms of recreation. The lowermost portion of the upper segment is probably floatable. The middle segment is probably a Class IV to VI (refer to Table A-1) whitewater float, with at least one portage. It is unknown if this stretch of the creek has ever been floated. The lower segment is a Class II to III float down to Cottonwood Creek. * Much of the middle segment is secluded, undeveloped, physically demanding, and inaccessible by roads or trails, which gives it a primitive setting and excellent opportunities for primitive types of outdoor experiences.

Vegetation. Vegetation in the upper two segments is primarily coniferous forest grading down in elevation into oak-conifer forest. Below the Platina Road bridge, digger pine-chaparral and grasslands predominate. Riparian vegetation overhangs the creek in places along its length.

Scenic Quality. * While there are no formal Visual Resource Management classifications, * scenic quality would probably be an "A" in most of the BLM portions and "B" in the lower remaining portions. The residential Platina area probably has a "B" rating.

Water Quality. Probably excellent in the upper two segments and good in the lower segment.

Wildlife. Wildlife species found along this section will be those associated with brushland and annual grassland ecosystems, in addition to the riparian vegetation along the stream. These species include wild turkey, valley and mountain quail, common mergansers, wood ducks, coyote, bobcat, grey fox, mountain lion, beaver, mink and black bear. Bald eagles and other raptors have been seen foraging along the lower segment.

Socio-Economic Uses. Fisheries, recreation. Grazing in the lower segment, hydroelectric production in the middle segment, timber production in the upper segment.

Eligibility Conclusion: ELIGIBLE

CLASSIFICATION

The segment of Middle Fork Cottonwood Creek between the Trinity National Forest boundary and Little Bear Gulch is classified as RECREATIONAL since the entire segment is paralleled by roads, contains a hydroelectric facility and the developed area of Platina. The segment between Little Bear Gulch and the downstream Platina Road crossing near Hundred Dollar Gulch is classified as WILD because it is primitive in character and essentially inaccessible to motorized vehicles.

SOUTH FORK COTTONWOOD CREEK

The South Fork of Cottonwood Creek flows east out of the Yolla Bolly-Middle Eel Wilderness in Tehama County and then northeastward to its confluence with Cottonwood Creek 2 1/2 miles west of Cottonwood, California. The 60.2 mile long South Fork can be divided into three segments: the upper, middle and lower segments. The upper segment is entirely within the Mendocino National Forest. The middle segment starts at the USFS boundary and proceeds downstream to the Cold Fork confluence. The lower segment starts at the Cold Fork and goes downstream to the confluence with Cottonwood Creek. All BLM administered public lands occur within the middle segment. This segment comprises the study corridor (MAP 3-10a in packet).

Total Miles/BLM Miles. 26.4 / 3.1

Free Flowing Discussion. One small dam was seen by air in the middle segment. Its exact location is unknown. Its effects on the free flowing character was observed to be minimal. No other impoundments or major diversions are known to exist.

Cultural/Historic Values. There are no known significant values.

Fisheries. Some spawning of anadromous fish occurs in the corridor. Gravel migration provides for spawning downstream.

Physiography/Geology. * The upper and much of the middle segment consist of a very rugged, narrow, sinuous, steep-walled canyon. The creek bottom is characterized as boulder strewn, with innumerable cas-

cading rapids and small waterfalls. The lower segment cuts through the rolling hills and gentle terrain of the Sacramento Valley. The upper segment is located within the Coast Ranges Geologic province which locally contains the Franciscan sandstone, shale and blueschist of Cretaceous and Jurassic age. Further to the east, the creek passes through the Coast Range Thrust Fault and into the Cretaceous age sedimentary rocks of the Sacramento Valley. The middle segment contains the type area for rare sandstone dikes and "important" (USGS, Menlo Park) Cretaceous in age invertebrates and Ammonoids in T. 26 N., R. 8 W., Sec. 12. * This segment also contains a spectacular display of the steeply dipping Cretaceous sedimentary rock layers, paralleling the creek bed in several places.

Recreation. * Fishing, tubing, limited canoeing and whitewater kayaking in the middle and lower sections. At least one major boulder jam would impede whitewater boating in the middle section. * Much of the middle segment is secluded, undeveloped, physically demanding, and inaccessible by roads or trails, which gives it a primitive setting and excellent opportunities for primitive types of outdoor experiences.

Vegetation. Riparian vegetation of variable density exists along most of the creek. Oak-conifer-brushy woodlands are in the upper canyon area, while brushland, scattered oaks, and grassland predominate in the Sacramento Valley.

Scenic Quality. * While there has been no formal rating established, * the scenic quality of the US Forest Service portion and the upper 2/3rds of the middle (BLM) portion is estimated to be an "A". The remaining lower portions probably warrant a "B" rating.

Water Quality. Probably good or excellent.

Wildlife. Wildlife species found along this corridor will be those associated with brushland and annual grassland ecosystems, in addition to the riparian vegetation along the stream. These species include wild turkey, valley and mountain quail, common mergansers, wood ducks, coyote, bobcat, grey fox, mountain lion, beaver, mink, fisher, porcupine, and black bear. Bald eagles and other raptors may use the lower segment for food foraging.

Socio-Economic Uses. Some gravel and placer gold mining, fisheries, recreation, cattle grazing, hydroelectricity(?)

Eligibility Conclusion: ELIGIBLE

CLASSIFICATION

The segment of South Fork Cottonwood Creek between the National Forest boundary and Maple Creek is classified as WILD since it possesses an essentially primitive character and undeveloped shoreline inaccessible except by trails. The segment between Maple Creek and Cooks Flat is classified as SCENIC since the shoreline is largely primitive and undeveloped with limited vehicle access.

DEER CREEK

Deer Creek flows southwesterly out of Lassen Volcanic National Park into the Sacramento River. The study corridor is defined as from the western edge of the Ishi Wilderness, 8.2 miles down to the Deer Creek Irrigation Ditch in T. 25 N., R. 1 W., Section 23. The majority of Deer Creek is managed by the Lassen National Forest. They have determined that Deer Creek, above this study corridor, is eligible for inclusion in the NWSRS. One unsurveyed parcel of BLM administered public land in T. 25 N., R. 1 E., Section 18 may touch the creek in three places (MAP 3-8b in packet). BLM has proposed acquisition of additional lands within the study corridor.

Miles/BLM Miles. 8.2 / 0.1

Free Flowing Discussion. There are no diversions or impoundments on the study segment.

Cultural/Historic Values. Nationally Important site complex of camps and caves of the Yahi Indian tribe and their predecessors, of which Ishi was the last known member.

Fisheries. Important for salmon, steelhead and other native fisheries.

Physiography/Geology. * Flowing out of the Cascade Range, the creek has cut its way into Cenozoic volcanic rocks and sediments of volcanic origin. The creek segment descends through a long series of rapids in a deep, rough canyon down to the Sacramento River. There are spectacular columnar basalt cliffs and eroded volcanic mud flows which can appear as fantastic castle-like spires.

Recreation. * This lower corridor provides good fishing and swimming opportunities, but are limited due to lack of public access. Whitewater kayaking occurs on this segment, starting at either Potato Patch Campground or Ponderosa Way and taking out at the Leininger Road bridge. * This is a multi-day unspoiled primitive type of run, with a technical difficulty rating of Class IV to V (refer to Table A-1), with some portaging required. Floating this creek has been described in a California boating guidebook as: "The wilderness journey through the Deer Creek Canyon is one of the finest in California. Rarely can one experience a river of such high quality for such a long distance".

Vegetation. Vegetation types include mixed conifer type and the Pacific ponderosa pine type of the Cascade Range at the higher elevations, and the oak woodland and dense chaparral at the lower elevations.

Scenic Quality. * The scenic quality of Deer Creek is evaluated as an "A".

Water Quality. Good to excellent.

Wildlife. Deer creek provides excellent nesting areas for several species of raptors, including: peregrine falcon, prairie falcons, red tailed hawks, turkey vulture and golden eagles. Other wildlife species typical of northern Sierra streams, including bobcat, mountain lion, black bear, blacktailed deer, mink and raccoon.

Socio-Economic Uses. Recreation and some cattle grazing. A twin steel tower electrical transmission line crosses this study corridor.

Eligibility Conclusion: ELIGIBLE

CLASSIFICATION

Deer Creek is WILD throughout the study corridor because the water quality is good, there are no impoundments and there are no access roads or shoreline developments. A powerline crosses the creek at one point, however, it does not noticeably affect the river environment.

MILL CREEK

Mill Creek flows out of Lassen Volcanic National Park in a southwesterly direction to its confluence with the Sacramento River. The study corridor is defined as from the Lassen National Forest boundary down to gaging station above the power line in T. 25 N, R. 1 W. Section

6 (MAP 3-8b in packet). Mill Creek, above this study corridor, has been determined to be eligible by the Lassen National Forest.

Total Miles/BLM Miles. 14.0 / 0.3

Free Flowing Discussion. There are no known water diversions or impoundments on the study segment. Mill Creek is known for its dependable year-round flows.

Cultural/Historic Values. * Mill Creek has a nationally important site complex of village, camps, petroglyphs, and caves related to the Yahi Indian tribe and their predecessors, of which Ishi was the last member.

Fisheries. Spring run chinook salmon, steelhead, rainbow and brown trout occur within the study segment.

Physiography/Geology. * Flowing out of the Cascade Range, the creek has cut its way into Cenozoic volcanic rocks and sediments of volcanic origin. The study corridor descends through a long series of rapids in a deep, rough canyon down to the Sacramento River. There are spectacular gorges with caves in the walls in the lower portions of the creek. Many small waterfalls and pools are part of the stream channel.

Recreation. Some fishing and camping occur in the study corridor, but are limited by lack of public access. Whitewater boating is limited and challenging because of the Class V+ (refer to Table A-I) difficulty of creek and the lack of access points.

Vegetation. The primary vegetation types are oak grasslands, chaparral with digger pines and a thin riparian zone bordering the creek.

Scenic Quality. * A scenic quality rating of "A" has been determined for Mill Creek.

Water Quality. Good to excellent.

Wildlife. Mill creek provides excellent nesting areas for several species of raptors, including prairie falcons, red tailed hawks, turkey vultures and golden eagles. Other wildlife species are typical of northern Sierra streams including bobcat, bear, mountain lion, black-tailed deer, mink and raccoon.

Socio-Economic Uses. Recreation, cattle grazing. A twin steel tower electrical transmission line crosses this study corridor.

Eligibility Conclusion: ELIGIBLE

CLASSIFICATION

Mill Creek is WILD throughout the study corridor because there are no impoundments, shoreline developments or access roads and the water quality is good. A powerline crosses the creek at one point, however, it does not noticeably affect the river environment.

PAYNES CREEK

Paynes Creek is a small westerly flowing tributary of the Sacramento River located in Tehama County, six miles northeast of Red Bluff, California. The study corridor starts at the mouth of the Sacramento River and proceeds upstream to the natural gas pipeline near State Highway 36, two miles southwest of Dales, California (MAP 3-6b in packet).

Total Miles/BLM Miles. 6.7 / 4.2

Free Flowing Discussion. The study corridor is free flowing with one minor water diversion on public land.

Cultural/Historic Values. Significant Indian village sites occur at the confluence with the Sacramento River and on public land further upstream. Numbers of hunting blinds and lithic workshops are found along the canyon rim.

Fisheries. Some spawning of anadromous fish and a native trout population occurs in the study segment.

Physiography/Geology. Paynes Creek is in a small narrow walled canyon, which gradually opens up towards its upper end. The geology of this corridor consists of Cenozoic in age volcanic rock and volcanically derived sediments which have been emplaced in the Sacramento Valley.

Recreation. Fishing and hunting.

Vegetation. * Extensive dense riparian growth exists along four to five miles of stream bottom. This constitutes an key remnant of critical habitat for wildlife species in the Sacramento Valley that are dependant upon this dense cover. Scattered oak woodland, chaparral, and grassland cover the adjoining highlands.

Scenic Quality. * This creek has a scenic quality rating of "A".

Water Quality. Water quality is probably good.

Wildlife. Paynes Creek contains important wildlife habitat for the following species that are also found along the Sacramento River: osprey, wintering bald eagles, red tailed hawk, ferruginous hawk, valley quail, wild turkey, Canada geese, wood ducks, grey squirrel, ring tailed cat, river otter, beaver, blacktail deer, coyote, bobcat, and mountain lion.

Socio-Economic Uses. Fisheries production, recreation and cattle grazing.

Eligibility Conclusion: ELIGIBLE

CLASSIFICATION

Paynes Creek is SCENIC throughout the eligible segment. There is one small diversion which does not appreciably affect the free-flowing nature of the creek. There is a paralleling trail and a short length of unimproved road. The creek is crossed in two locations by powerlines, however, these are screened from the creek by dense riparian overstory and are substantially unnoticeable.

SACRAMENTO RIVER

The Sacramento River is the major drainage of the Sacramento Valley and eastern Klamath Mountains. Flowing in a southerly direction, the study corridor starts at Balls Ferry Bridge in Shasta County and ends at the gaging station below Sevenmile Creek in Tehama County. BLM administered public lands are concentrated between Jellys Ferry and the mouth of Paynes Creek (MAP 3-6b in packet).

Total Miles/BLM Miles. 25.0 / 7.1

Free Flowing Discussion. This portion of the river is entirely free flowing in its character, with no impoundments. Upstream, the river is heavily regulated by Shasta and Keswick dams, which control winter flooding and provide for agricultural water storage.

Cultural/Historic Values. * There are at least fourteen known aboriginal villages along this stretch of the river. These sites tend to be pristine in condition and probably offer outstanding opportunities for research into the prehistoric cultures in this region. There is a possibility of sacred values to local Native Americans.

Fisheries. * As the primary drainage of the region, the Sacramento supports a very high value fishery resource of salmon, steelhead, and trout. It is nationally significant for the spawning of anadromous fish, especially Chinook salmon.

Physiography/Geology. The Sacramento River meanders through the Sacramento Valley cutting into the Cenozoic in age sedimentary and volcanic rocks which comprise the valley's geology. River sediments are constantly being deposited and eroded as the river makes changes to its course or flow. Gravel bars in and along the river are common, as are rocky sections.

Recreation. * The river is heavily used for boat and shoreline fishing, leisurely floating in rafts and canoes, limited swimming, sightseeing, and hunting. There are developed recreation sites along this corridor for boat access, camping, target shooting, and picnicking. The river difficulty rating for this segment is mostly Class I, with Class II (refer to Table A-1) rapids at Chinese Rapids.

Vegetation. * Contains areas of rare Great Valley, Valley Oak Riparian Forest (old growth) along with abundant immature riparian growth along the river's edge. Approximately 95 per cent of the mature riparian forest type along the Sacramento River, between Redding and the Delta, has been destroyed by human modifications. Several remnant stands of Great Valley Oak Riparian Forest are found in the upper stretches of this river.

Scenic Quality. * Most of the river has a scenic quality rating of "A".

Water Quality. The water quality is good.

Wildlife. Wildlife species that are found along this stretch of river include osprey, wintering bald eagles, red tailed hawk, ferruginous hawk, Valley quail, wild turkey, Canada geese, wood ducks, grey squirrel, ring tailed cat, river otter, beaver, blacktail deer, coyote, bobcat, and mountain lion.

Socio-Economic Uses. * The Sacramento River is very important for the entire state of California. * It supplies water for primarily agricultural uses in central California, and also for local domestic needs. Its spawning habitat supplies a significant portion of the anadromous fisheries off the coast of California. Upstream manufacturing and waste treatment facilities use its waters for routine and emergency discharge externalizing. Its recreational uses bring much needed

revenues into the region. Some alluvial gravel extraction occurs in the upper portion of the segment on private lands.

Eligibility Conclusion: ELIGIBLE

CLASSIFICATION

The eligible segment of the Sacramento River is divided into four sections. The section from Balls Ferry downstream to 1/2 mile below the Jellys Ferry Bridge is RECREATIONAL. There are no impoundments, however, there are scattered shoreline developments including boat docks, resorts, residences, pumping stations and utility crossings, as well as recreation facilities and a bridge at Jellys Ferry Bridge to 1/2 mile upstream of the Bend Bridge is SCENIC. There are no impoundments, paralleling roads or other shoreline developments. Parts of both sides of the river in this section are used for agricultural purposes, including field crops and livestock grazing. A powerline crosses the river at one point, however, it does not substantially affect the river environment. The section from 1/2 mile upstream of the Bend Bridge to the mouth of Paynes Creek is RECREATIONAL. There are numerous residences and one commercial dock, as well as a boat ramp along the shoreline and a large bridge spans the river at Bend. The section from the mouth of Paynes Creek to the gaging station downstream from the mouth of Sevenmile Creek (the Iron Canyon section) is WILD. There are no impoundments or diversions. There is no shoreline development. There are no access roads and the character of this reach is essentially primitive. Water quality is good along the entire segment.

SHASTA RIVER

The Shasta River is located North of Yreka, California in Siskiyou County, with headwaters in the Shasta Valley. The study corridor is defined as that northerly flowing portion from the State Highway 263 bridge, downstream to the confluence with the Klamath River. The upper portion is not considered because of the lack of any public land. The Highway 263 bridge marks a distinct physical change in the character of the Shasta River. Upstream from this point the river is slow moving and meandering through the relatively flat terrain of the Shasta Valley. Within the study corridor the river becomes deeply entrenched in a narrow canyon within the Klamath Mountains (MAP 3-2b in packet).

Total Miles/BLM Miles. 7.0 / 3.3

Free Flowing Discussion. A small low-head diversion dam is located just downstream from the Highway 263 bridge. A small percentage of the river's flow is diverted into a ditch along the east bank to a small hydroelectric facility downstream. Near the mouth of the river is a small weir across the channel. California Department of Fish and Game has installed and maintains a series of boulder weirs across the river which impound introduced spawning gravels. These developments do not detract from the overall free flowing nature of the river.

Cultural/Historic Values. Fools Paradise housepit (Shasta Indian) village and a Euro-American mining camp are found above the river. There are ethnographic village sites in close proximity to the public lands along the river and possible village sites on public land. Possible religious/mythological importance of river to contemporary Native Americans.

Fisheries. * The Shasta River has been described by the California Department of Fish and Game as being the single most important Chinook spawning tributary in the Klamath River drainage. The public land portions of this corridor contain a significant percentage of this spawning.

Physiography/Geology. The river has cut a deep canyon through the pre-Cenozoic metasedimentary and metavolcanic rocks of the Klamath Mountains. The canyon is relatively narrow, with State Highway 263 and its associated bridges restricted to benches cut into the canyon wall 100 feet above the river.

Recreation. The river corridor is used primarily for fishing and sightseeing from Highway 263. Placer gold dredging and panning occurs during the warm summer months. Whitewater kayak use is light, with a river difficulty rating of Class II to IV (refer to Table A-1).

Vegetation. Limited rainfall and rocky soils limit the vegetation in the uplands adjacent to the river to brushlands with scattered conifers and oaks. Riparian vegetation along the river's edge is light to moderate.

Scenic Quality. * This river segment is of class "A" scenic quality.

Water quality. The water quality is adequate for Chinook spawning. Since the Shasta River drains agricultural lands above the study corridor, the water is turbid and high in nutrients. Domestic septic effluent can be smelled along certain portions of the study segment near residences.

Wildlife. The Shasta River canyon receives considerable water fowl use, including mallard, wood duck, common merganser, cinnamon teal and Canada geese. Other wildlife species using the river area are mountain lion, bobcat, mink, great blue heron, and mountain quail.

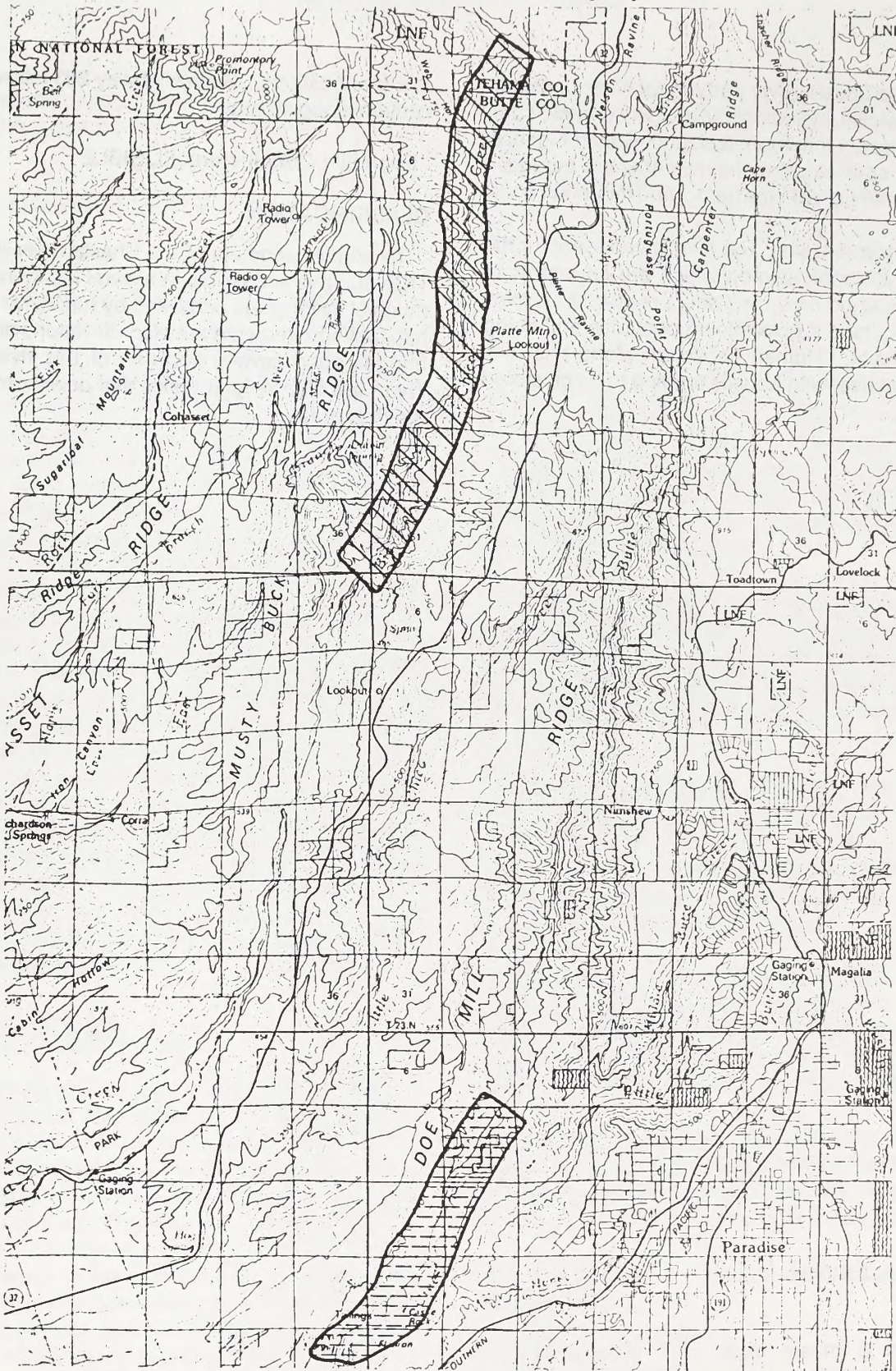
Socio-Economic Uses. The river is important for the spawning of Chinook salmon which are an important recreational and commercial fishery resource. A minimal amount of placer gold mining occurs in and along the Shasta River. Human habitation along this river corridor is variable, with houses tending to be clustered

at a few locations. State Highway 263 follows the river canyon along its route.

Eligibility Conclusion: ELIGIBLE

CLASSIFICATION

The eligible segment of the Shasta River is RECREATIONAL. It is accessible in several locations by roads, much of its length is paralleled by roads, numerous fish habitat improvements are also diversions and highway bridges span several sections of this river segment. There are also several residential developments within the river area.



scale approx.
1:175,000

MAP A-1

Big Chico Creek segment determined not eligible

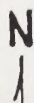
Butte Creek segment determined not eligible

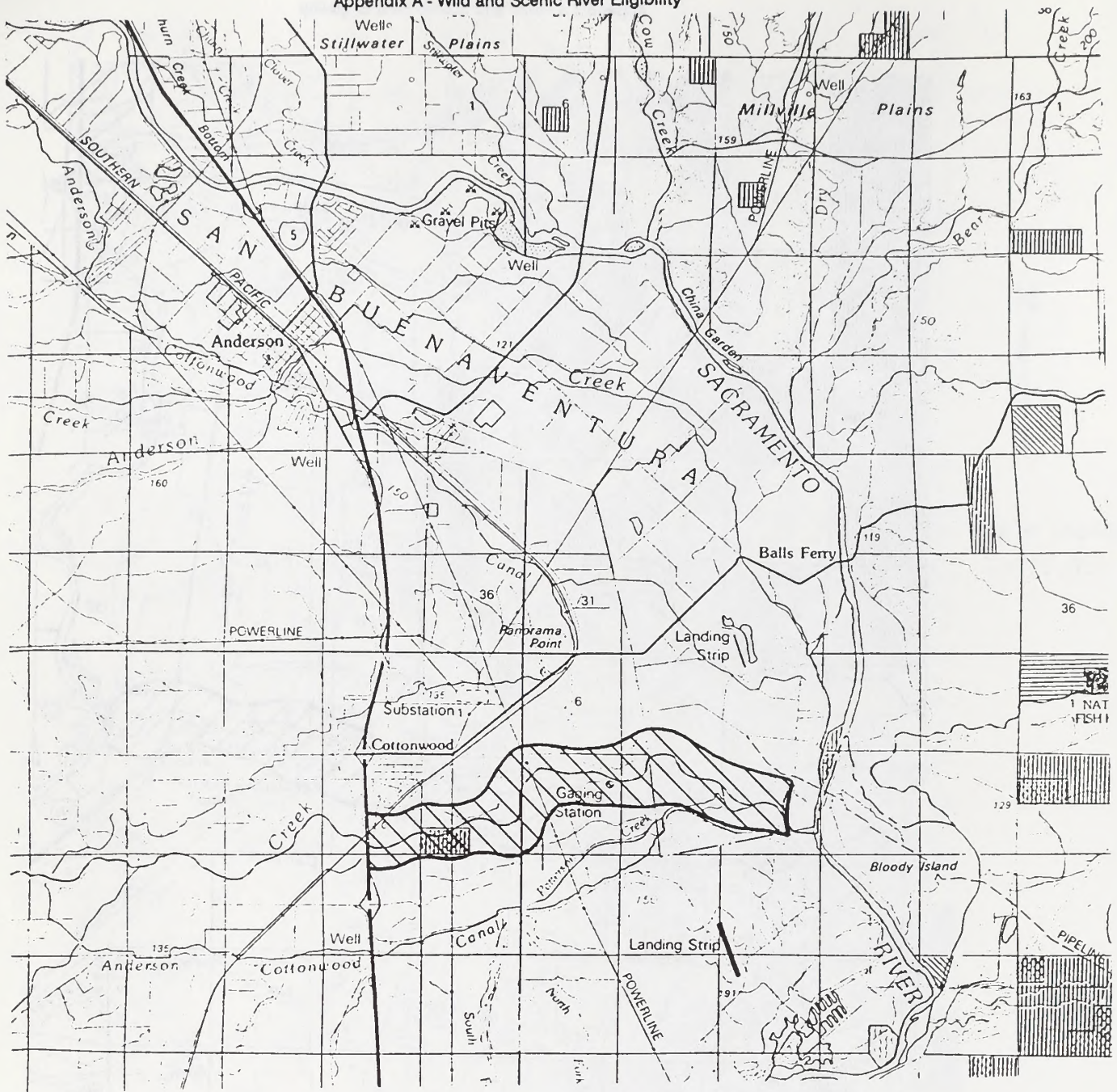


MAP A-2

scale 1:100,000

Clear Creek segment determined not eligible





MAP A-3

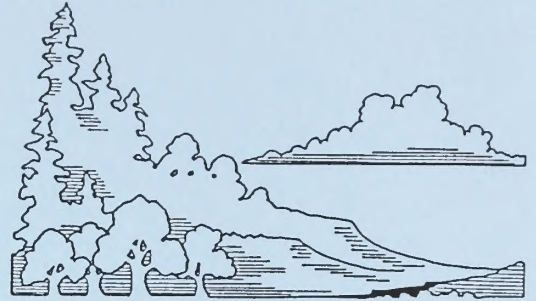


Cottonwood Creek segment determined not eligible



scale 1:100,000

APPENDIX B
DESIRED PLANT COMMUNITY FOR
THE SACRAMENTO RIVER MANAGEMENT AREA



APPENDIX B

DESIRED PLANT COMMUNITY DEFINITIONS

FOR THE

SACRAMENTO RIVER AREA

The Sacramento River Area is comprised of an assortment of natural communities which are being grouped into four major components - the Blue Oak Woodlands, Annual Grasslands, Stream and River Riparian, and the Wetland and Vernal Pool. The goal of the Desired Plant Community for the whole area is to retain the current diversity of these communities while improving and maintaining wildlife habitats. Prescribed burning and modified fire suppression would be used to enhance some natural environments.

1. Blue Oak Woodlands: Blue Oak (Quercus douglasii) density (% canopy/crown cover) would not be reduced from the present level. The goal is to maximize wildlife habitat diversity. The following actions come out through this RMP. Maintain key "islands" of oak woodlands at a level of 70 square feet per acre basal area along Inks Creek and at 35 square feet/acre basal area throughout the remainder of the management area (SRAMP Action 9.1). Maintain, where available, two to four hardwood snags of 10 to 12 inches diameter breast height per acre (SRAMP Action 9.2). Maintain dead and down trees at a level of two to four per acre where available. Allow no consumptive uses of dead and down trees, but clear dead and down trees from within fifty feet of the "open" roads within the management area (SRAMP Action 9.3).

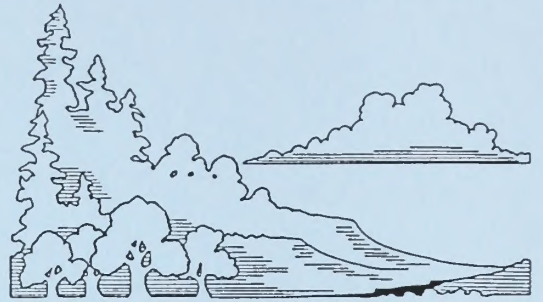
2. Annual Grasslands: The goal is to maintain an adequate cover of grasses and forbs to meet wildlife habitat needs, especially for the Columbia Black-Tailed

Deer (1965 population level), watershed protection, and livestock grazing. The site, typically, would be dominated by a dense growth of grasses and forbs with a foliar cover of at least 85% or more. At least 675 lbs. per acre of residual mulch will remain at the end of the growing season or at the time of livestock turnoff, whichever is later.

3. Stream & River Riparian: The goal is to maximize vegetative volume of riparian areas in a Class II condition. Additional goals are retention or improvement of stream and river bank stability and bank morphology. Ninety percent of the sites would be composed of very wet soil adapted plants in vigorous condition or by gravel and rock which do not allow bank erosion. Reproduction of species in both the understory and overstory is proceeding at a rate to insure continued ground/bank cover. A variety of vegetation species and age classes are represented.

4. Wetlands and Vernal Pools: The goal is to maintain and improve the diverse assemblage of animals, plants, and insects species that are associated and dependent on these environments. The site typically would be dominated by dense growth of herbaceous monocots. The vegetation would be composed mostly of native plants. Shrubs and trees would be nonexistent or found in trace amounts in the site. Restore or retain the natural vegetation complex in a late seral or potential natural community condition.

APPENDIX C
AREAS OF CRITICAL ENVIRONMENTAL CONCERN
(ACEC) - DETERMINATIONS



APPENDIX C

AREAS OF CRITICAL ENVIRONMENTAL CONCERN - DETERMINATIONS

INTRODUCTION

This appendix represents the determinations to designate (or not designate) fifteen separate areas within the Redding Resource Area as Areas of Critical Environmental Concern (ACEC). The Federal Land Policy and Management Act (FLPMA) defines "ACEC" as an area where BLM has determined that "special management attention is required . . . to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources and other natural systems or processes, or to protect life and safety from natural hazards". This designation is unique to BLM.

The RMP is the principle means which BLM uses to identify, evaluate and, as appropriate, designate ACEC's. Designation of an ACEC at any time other than a land use planning effort requires a planning amendment and a public involvement process which parallels the RMP process. Section 202 (c) (3) of FLPMA gives priority to the designation and protection of ACEC's in developing and revising land use plans. This mandate and practical efficiency require their full consideration in this document

Designation as ACEC requires that a nominated area (all fifteen are nominated by BLM) possess relevance, importance, and require special management attention. Subsequent to these determinations, BLM must prescribe the long term (or short term in certain cases) management prescriptions in light of the various land use management alternatives considered in the RMP. Further information regarding ACEC characteristics, analysis, public involvement, management, and relationship to other designations is detailed in BLM Manual 1613.

DETERMINATIONS

The following discussions on the fifteen areas being considered for ACEC designation include the following information for each area: name of the potential ACEC, location, size, description of the relevance and importance of the area, special management attention required, and; the rationale for designation or non-designation in the preferred alternative (i.e., proposed action).

BAKER CYPRESS RESEARCH NATURAL AREA

This proposed Research Natural Area/ACEC consists of a 120 acre parcel of isolated public land in north-eastern Shasta County. The parcel is located eight airmiles south-southwest of Burney and immediately east of Tamarack Road in the western halves of Sections 24 and 25, T. 34 N., R. 2 E. (refer to Map 3-8b in packet).

Baker Cypress, Cupressus bakeri is an uncommon cypress due to its limited distribution, a high diversity among the few scattered populations and its genetically distinct taxon. Found only in eight locations in northern California, it has been placed on the California Native Plant Society Watch List 4 to encourage regular monitoring to assure no further degradation to existing populations. Lying 5 miles west of the balance of the Burney Springs/Cypress Camp population, this grove appears to be the best example of undisturbed stands of these relic trees which still exist in this population and possibly the most vigorous of any known populations anywhere. The remainder of these trees have been heavily impacted due to logging and vegetation type conversion. Only small (2 acres or less), non-contiguous slivers of young trees exist, sandwiched among large ponderosa pine plantations. Conversely, the proposed Research Natural Area/ACEC consists of 40 acres of undisturbed, multi-aged stands surrounded by 80 acres of light to virtually undisturbed habitat. These trees appear distinct from the population which BLM is protecting in the Timber Crater area, 30 miles to the northeast, which only occurs on lava flows. The proposed ACEC is associated

with a mixed conifer type. One of the eight populations now appears to be extinct. The remaining five populations appear to be classified as a subspecies, making the proposed ACEC unique. This location warrants protection from any further disturbance to retain this last prime example of this population for further research and study of this interesting but vulnerable species. Moreover, the location of the proposed ACEC in the heart of privately managed commercial forest land where vegetation type conversions are conducted necessitates special management attention for this residual parcel of public land. Therefore, designation as a Research Natural Area/ACEC is warranted.

BEEGUM GORGE OUTSTANDING NATURAL AREA

Beegum Gorge Outstanding Natural Area/ACEC contains approximately 4360 acres of public land located in T. 29 N. R. 9 W., Sections 19, 21, 22, 28, 29, 30, 31, 32, and 33, M.D.M., Tehama County, California. This ACEC occurs approximately one mile south of Platina, California and extends along Beegum Creek, from the U.S. Forest boundary, 4.4 miles down to State Highway 36 (refer to Map 3-10b in packet).

Inner Beegum Gorge has a scenic quality of "A" where the steep canyon walls form a narrow gorge over 2,000 feet deep in places. The creek bed is filled with large boulders and contains many deep pools and numerous waterfalls. High quality recreational pursuits which can be obtained in the canyon include: fishing, hiking and scrambling in the canyon bottom, and swimming in pools in the creek bed. Beegum Gorge offers the user a natural primitive type of outdoor experience to the hiker willing to scramble over this rugged terrain.

The stream corridor (within 1/4 miles of normal high water) has been determined eligible for inclusion in the National Wild and Scenic Rivers System with a preliminary classification as "Wild". This corridor has yet been recommended for inclusion to the U.S. Congress, pending an assessment of suitability for designation. Given the proposed transfer of this public land to the administration of the U.S. Forest Service, the interim protection required within the Wild and Scenic River study corridor, and the light public use (backed by an appropriate Recreation Opportunity Spectrum management classification as Semi-Primitive Non-Motorized), designation as an ACEC is unwarranted. Extant values are adequately protected through the measures noted above; and, no additional special management attention is deemed necessary. Moreover, application of a designa-

tion which is unique to BLM (ACEC) and subsequent transfer to the Trinity National Forest, serves no valid purpose. Decisions regarding special management needs and designations are deferred to the U.S. Forest Service.

BLACK MOUNTAIN

This potential ACEC contains approximately 1,680 acres of public land and 1,870 acres of private land in Sections 2-5 and 9-11, T. 46 N., R. 6 W. located approximately 10.5 air miles northeast of Yreka, California. The boundary of the potential ACEC includes Black Mountain and the drainage of Carson and Osburger gulches (Map C-1 within this appendix).

The area contains the Fat Rattlesnake Site, a medium-sized midden deposit within an upland setting above the Klamath River; the Osburger Site, a late prehistoric housepit village site along the river with associated petroglyphs; several rock features on Black Mountain including a rock enclosure and an extensive rock wall; and two historic miners' cabins apparently re-located from the historic lumber town of Klamathon.

Black Mountain has been identified to BLM by contemporary Shasta Indians as a sacred mountain to them. Its specific significance and use levels were not identified and its Indian name is not known.

Calochortus greenei, a candidate species for listing, probably occurs on the mountain. Lomatium peckianum is known to occur on the mountain. This is a potentially sensitive plant. There is also a relict stand of mixed conifers on the north side of the mountain of unknown importance.

The area does not warrant designation as an ACEC for the following reasons: The Osburger site (including the standing cabins) is located within the proposed corridor for a recreational component of the National Wild and Scenic Rivers System. Maintenance of the structures, continuation of the protective exclosures and continued withdrawal of this site from mineral entry are adequate protection for the prehistoric and historic resource values. Calochortus greenei and Lomatium peckianum occur throughout the region in isolated populations. Should these species be located on public lands, they will be fully considered prior to BLM approval of any surface disturbing action in consistency with BLM sensitive species policy. Similarly, the Fat Rattlesnake site must be considered for eligibility for inclusion in the National Register of Historic Places and implementation

of appropriate Impact mitigation measures prior to any BLM authorizations on or near the site. Access to the peak and majority of the mountain for traditional uses is at the discretion of the private landowners. The actual level of contemporary Native American use and specific significance is unknown. Acquisition of the privately-owned lands by the Federal government necessitates detailed knowledge of the values and risks to such values if public stewardship is not implemented.

CLEAR CREEK

This potential ACEC is a narrow ribbon encompassing the 100 year floodplain of Clear Creek between the boundary of the Whiskeytown Unit of the National Recreation Area and the Sacramento River. A small amount of public land (less than 50 acres) fall within this narrow corridor in Sections 15 and 36, T. 31 N., R. 6 W. This potential ACEC is represented by the creek proper and immediately adjacent lands within the "Lower Clear Creek" polygon on Map 3-5a (in packet).

According to the 1989 report, Upper Sacramento River Fisheries and Riparian Habitat Management Plan, Clear Creek presently produces 2% of the salmon run of the upper Sacramento River watershed. With relatively minor habitat improvements, the production of this stream can be enhanced to provide up to 6% of the anadromous fisheries. This production capability enhanced by the possibility to regulate water temperatures, is unmatched within the region.

Clear Creek is located virtually next door to the expanding population center of Redding. This juxtaposition, historic mining activity, and water management measures have greatly impacted the original quality of the native stream. Continued demands on this stream coupled with anticipated increases in indirect impacts will certainly degrade the remaining value of this regionally significant stream.

BLM has reacted affirmatively to this management challenge within the context of the proposed action. Private land acquisition, cooperative efforts with others and the land use allocations prescribed in Chapter 3 should assist in the long term enhancement of the native fisheries. The very minute amount of public land within the corridor, the number of private landowners, and the interim protection afforded for the corridor (above Clear Creek Road bridge) under the National Wild and Scenic Rivers Act, makes designation as an ACEC premature. If BLM is able to acquire at least a significant minority

land ownership interest, amendment of this RMP and designation of an ACEC may be warranted in the future.

DEER CREEK

The proposed ACEC encompasses approximately 5,000 acres including 620 acres of BLM administered public land in an approximately 8 mile long polygon located 20 airmiles southeast of Red Bluff in Tehama County (Map 3-8b in packet).

This potential ACEC comprises the lower segment of the canyon proper of Deer Creek laying between the Deer Creek Irrigation District dam and the Lassen National Forest boundary near Rock Creek. The canyon adjoins the Ishi Wilderness Area. The creek immediately upstream has been identified as eligible for inclusion in the National Wild and Scenic Rivers System with a preliminary classification as "Wild". Similarly, the creek within the potential ACEC has been determined as eligible for inclusion as "Wild" and "Scenic".

This canyon is known as a miniature "Birds of Prey Canyon" due to the number and diversity of nesting raptors including Peregrine Falcon. This canyon also contains the nationally significant complex of refuge sites of Ishi and the last members of the Yahi tribe. Moreover, the canyon possesses important white water recreation opportunities and dramatic scenery.

The quality of values within this area certainly meet the relevance and importance criteria for designation as an ACEC. The relatively small amount of present BLM administered land is a concern, however. The BLM has approached a major corporate landowner in the canyon. This firm is willing to sell their interests to the Federal government. In anticipation of increased public ownership and in recognition of special management attention necessary to allow appropriate public use while protecting the outstanding natural values, ACEC designation is warranted.

FORKS OF BUTTE CREEK OUTSTANDING NATURAL AREA

The Forks of Butte Creek Outstanding Natural Area (ACEC) is located along Butte Creek from 8 to 13 miles northeast of Chico, California. The area of this potential ACEC varies by land use management alternative: In the Natural Values alternative, the ACEC extends downstream from Portuguese Point to the Centerville bridge and currently includes approximately 3,080 acres of public land. The Administrative Adjustment alterna-

tive contains approximately 1,130 acres of public land and only occurs within 1/4 mile of Butte Creek between the Forks of Butte Creek and the DeSabra Powerhouse. The proposed action or Resource Use with Natural Values Consideration alternative contains approximately 2,480 acres extending from the Forks of Butte Creek downstream to Helltown. Map 3-8b (in packet) shows the location and boundaries of this proposed ACEC.

Butte Creek canyon is a significant recreation use area which gives users the opportunity to engage in a variety of recreational pursuits. These include: recreational placer gold collection, fishing, swimming, sunning, picnicking, hiking, backpacking, nature study, hunting, and photography. These activities occur within a steep, rugged canyon containing the perennial waters of Butte Creek. The many rapids and waterfalls contribute to the scenic quality rating of "A" and VRM Class II of the area. Forks of Butte Creek ACEC contains a rapidly shrinking vestige of undeveloped rugged terrain, characteristic of the western foothills of the Sierra Nevada. Residential development is common along lower Butte Creek above Chico. This development is rapidly spreading northward towards Forks of Butte Creek.

Currently all of the existing land in the ACEC area is withdrawn from mineral entry to protect the recreational and natural values in the canyon. There are twelve existing mining claims in the withdrawn area. Any new mining actions on these claims, which cause significant surface disturbances, will necessitate the submission of a plan of operation and a reclamation bond to the BLM because of the ACEC determination.

Butte Creek has received continuous special management attention during the last decade due to the mix of competing interests. Population growth, increased public demands, increased public use and increasing impact to the local values (including looting of historic resources) necessitates continuation of special management attention. Designation as an Outstanding Natural Area/ACEC is warranted in recognition of this need.

JENNY CREEK

This potential ACEC is located in extreme north central Siskiyou County twenty-four air miles northeast of Yreka and immediately north of Iron Gate Reservoir (Map 3-2b in packet). The ACEC comprises approximately 1,000 acres including 320 acres of public land. A four mile length (including 1.5 miles BLM) of Jenny Creek courses through the middle of the potential ACEC. The area

begins as a 400 foot wide corridor at the Oregon corridor and expands to encompass the canyon from the confluence of Skookum and Jenny Creeks to its downstream end.

The area immediately upstream has been determined by the Medford District (Oregon) of BLM as warranting designation as an ACEC to protect the endemic Jenny Creek Sucker (*Catostomus rimiculus*), a candidate for listing by the U.S. Fish and Wildlife Service. Nesting Bald Eagles are found within the canyon below Skookum Creek. Both of these species require long term protection. The proposed boundaries of this ACEC reflect the habitat requirements; i.e., constricted to conform with Oregon BLM protection for the sucker and the nesting and foraging needed for the Bald Eagles.

Given the proximity of a recreational facility, expanding rural residential developments, and the increasingly attractiveness of the upper Klamath to regional visitors, special management attention is required to protect these sensitive species and their habitat requirements. Designation as an ACEC is therefore warranted.

MINNEHAHA MINE

The ACEC is a natural hazard area caused by recent mining and the subsequent environmental problems. It is located in T. 24 N., R. 3 E., Section 8, SE 1/4, M.D.M., Butte County, California, approximately twelve miles north-northeast of Chico, California. This 160 acre parcel is located within the relatively steep canyon of Big Chico Creek, with the majority of the land on the east side of the creek. Refer to Map 3-8b for the location and boundaries of this potential ACEC.

Recent placer gold exploration and mining has adversely impacted the land, vegetation, fisheries, and water quality of Big Chico Creek. Very steep, substandard roads have been constructed down into the canyon and across Big Chico Creek by miners wishing to access a placer gold-bearing Tertiary stream channel. Where this ancient channel is exposed, approximately 100 feet above Big Chico Creek, miners have blasted and dug away the side of the canyon. Auriferous gravels from this channel have been sluiced for gold values and the tailings left on the steep slopes between the mine and Big Chico Creek. In December of 1985, approximately 135,000 gallons of deleterious clayey material entered Big Chico Creek when poorly constructed tailings pond dams abruptly failed. This action, as well as the ongoing erosion problems at the mine site and steep access roads, have led to the serious degradation of Big Chico

Creek and the fisheries that it supports. Much of the road access and mine site is built on serpentine and serpentine soils. This material is highly erosive, supports only sparse vegetation, is detrimental to fisheries when introduced into their waters, and is difficult to reclaim.

Big Chico Creek is an important trout stream which flows through the city of Chico, approximately 12 miles downstream of the Minnehaha mine. There has been significant and vocal concern and dissatisfaction expressed by the public and the State of California with the way the BLM has been managing this parcel and the mining thereon. Most of the comments received want the parcel closed to new mining and the environmental problems corrected.

The responsible miners have either been unwilling or unable to remedy the serious problems. BLM's 43 CFR 3809 Surface Management Regulations have proven to be inadequate to prevent this occurrence or to correct the problems. FLPMA mandates that the BLM "prevent unnecessary or undue degradation of the lands." An ACEC designation would help the BLM accomplish the preventive measures needed.

To protect water quality and the fisheries and in recognition of continuing BLM actions designed to stabilize ongoing erosion, designation as an ACEC is warranted. Withdrawal of this ACEC from new mining claims is also deemed necessary to prevent further degradation and to protect investments of public funds. The immediate goal is to manage this parcel as an ACEC until the environmental damage is controlled. Hopefully, erosional stabilization will be effected during the life span of the RMP and the ACEC designation will be terminated. The ultimate goal is to make this parcel available for transfer to state or local agencies for long term administration.

ORCUTTIA TENUIS (HAWES CORNER) RESEARCH NATURAL AREA

This potential ACEC includes 40 acres of public land and 20 acres of adjoining private land on the Stillwater Plains three air miles northeast of Anderson in Shasta County. The parcel is located north of Dersch Road and east of Beatie Road on the upland terrace between Stillwater and Cow Creeks (see Map C-2).

Slender orcutt grass, *Orcuttia tenuis* is a native annual grass species that is only found growing in vernal pools located in and around the north end of the Sacramento

Valley and no other place in the world. It is listed by the state as Endangered and as a Candidate Species (Category 1) for listing with the U.S. Fish and Wildlife Service. Ninety-five percent of its original habitat range have disappeared through agricultural and urban development, with only 37 known populations in existence today. With the majority of its habitat located upon private lands, this plant's existence continues to be threatened by disturbance and destruction of its fragile habitat. These vernal pool habitats also support a unique variety of other plants and invertebrate species that have very limited distribution, which also need protection.

Designation as an ACEC is warranted to conserve these pools due to their botanical importance and in recognition of the special management attention necessary to safeguard the physical condition of these specific pools located close to the growing population center of Redding. Management as a Research Natural Area is intended to encourage scientific study of the genetic variability and critical habitat requirements of the populations of this species.

SACRAMENTO RIVER AREA OUTSTANDING NATURAL AREA

The Sacramento River Area represents a significant, irreplaceable ecosystem; the last remaining riparian system of any size on the river between Sacramento and Shasta Dam. The area lies just upstream of Red Bluff, California along the Sacramento River. It includes public and private land on both sides of the river and portions of the Battle Creek, Inks Creek, and Paynes Creek drainages (refer to "Bend Area" polygon on Map 3-6c in packet). The dominating topographic feature of the area is Table Mountain. While some narrow strips of riparian vegetation remain along the river, this is the only remaining site where a basically natural system extends from the river back to the surrounding uplands. Agricultural or residential disturbances have largely bypassed this land. Of the approximately 40,000 acres in the Sacramento River Area, most is in natural or near natural condition. The BLM has been working to consolidate Federal ownership in this critical area for over 20 years.

The area contains: vernal pools which contain a number of species including over 25% of the known global distribution of the plant *Orcuttia tenuis* a Candidate Species (Category 1) for listing with the U.S. Fish and Wildlife Service, two populations of the Federal Candidate (Category 2) of *Calycadenia freemontii*, relatively undisturbed archaeological sites including major river

villages, a diversity of raptors including nesting bald eagles, wetlands important to significant numbers of wintering waterfowl, including sandhill crane, regionally important steelhead and salmon spawning habitat, and the only sizeable deer winter range habitat along the Sacramento River. The area is also extremely attractive and accessible to a large population. As other portions of the Sacramento River are developed or access is otherwise precluded, this area receives ever increasing numbers of recreational users. People are drawn to the area to fish, boat, raft, hunt, hike, ride horses, and appreciate the scenic quality of the river, canyons, and blue oak uplands.

The area warrants designation as an ACEC since the values have regional importance, are uncommon in public ownership, and are increasing in significance as other portions of the river and surrounding environments are developed. Due to the increasing demands on the area, special management attention is needed. Management as an Outstanding Natural Area will encourage recreational use while recognizing the need to protect extant natural and cultural resources.

SACRAMENTO RIVER ISLAND RESEARCH NATURAL AREA

This potential ACEC is a former island lying across the Sacramento River below the mouth of Clear Creek immediately south of the city limits of Redding (Map 3-6c in packet). The ACEC consists of 125 acres of Great Valley - Valley Oak riparian forest and adjoining 200 acres of River frontage. A single parcel of public land encompassing 88 acres lies within the center of this important habitat. This area is the northernmost site of high priority habitat along the Sacramento River north of the State Capitol as indicated in the Sacramento River Riparian Atlas of 1988. This area contains the largest unaltered fragment of native riparian forest within Shasta County and the largest parcel of public owned habitat. The habitat is wedged between a commercial sand and gravel plant, developed residential/agricultural land and Interstate 5. Due to the regional importance of this remaining native habitat and the special management attention required to protect the habitat from adjoining uses and urban demands, designation as an ACEC is warranted. Management as a Research Natural Area will encourage development of baseline data inventories to use the area as a native habitat base to judge or improve the health of degraded habitat elsewhere in the region. Moreover, inclusion of adjoining degraded habitat will permit testing the effectiveness and costs of various habitat improvement measures. The results of these

tests can be applied elsewhere without additional risk to the remaining quality habitat or private land values.

SECRET SPRING MOUNTAIN

The potential ACEC consists of 1,560 acres of private land and 1,080 acres of public land (280 U.S. Forest Service and 800 BLM) overlooking the Klamath River and the Oregon state line thirty airmiles northeast of Yreka in Siskiyou County (Map C-3).

According to earlier BLM planning documents, the area contained primitive recreational opportunities and may possess important wildlife, archaeological, and vegetation values. Inventories conducted in concert with this RMP effort have identified the following values: nesting prairie falcons, typical upland fauna, spectacular landscape due to the rocky cliffs, a sparse forest of old growth mixed conifers in generally unsuitable soils, a low density of archaeological resources.

The area possesses in sum, values of perhaps local importance. However, public use of the area and potential impacts to these values are low. Threats from land development projects is not expected due to the remote location and rugged character of the land. Therefore, special management attention is unnecessary and designation as an ACEC is unwarranted.

SWASEY DRIVE ACEC

This potential ACEC contains approximately 400 acres of public land immediately west and adjoining Swasey Drive on the western outskirts of Redding (Map C-4). There are at least eight prehistoric sites within the area including one known and four probable deep multi-component middens. These middens represent a major regional aboriginal focus along Olney Creek, a principal tributary of the Sacramento River. In conjunction, the six middens and two lithic scatters exemplify a suite of possibly related occupational and special use sites that characterize upland Sacramento Valley use over a period of at least 3,000 years and possibly longer. There is no other known concentration of such significant sites on the west side of the very north end of the Valley that are in such good condition, let alone under public stewardship.

Scientific testing of one of these sites, the Middle Mule Site, revealed at least three and maybe four components, the earliest of which has not been defined in the northern Sacramento Valley prior to this investigation. This component may date back to 4,000 - 5,000

years or more. This study revealed that this site was a significant village with considerable remaining outstanding research value regarding questions of upland adaptations, culture change, regional trade, mortuary practices, etc. The other major middens have surface artifacts, exposed profiles, and extent indicating that they are probably of a similar character, possibly indicative of a tribelet pattern.

In addition to the prehistoric sites there are at least ten historic sites in this area that relate to gold mining activities, both placer and lode. These sites span the time period of at least circa 1870 to 1940 and include the remains of a rare arrastre and the Boswell mining complex, including remnants of a mill and other structures. The Boswell group is earmarked in the Mines and Mineral Resources of Shasta County and in other reports. There are a number of cabin foundations also present that offer research opportunities for understanding the life of the isolated 19th century miner working under marginal conditions, a portion of history not well-defined. While generally commonplace in Shasta County, the area also contains numerous examples of the mined landscape ranging from coyote holes and amorphous tailing piles to stacked rock walls, ditches, and worked veins of quartz. In conjunction with the other associated mining-related features and structures, this area may be a good, possible unusual, example of a fast-disappearing historic landscape/use zone in the eastern Klamath Mountains under public ownership.

The archaeological sites are fragile, especially the middens, cabin foundations, and lithic scatters and easily subjected to damage. The major middens have been looted by relic hunters over the years with looting an ongoing problem at the time this report was prepared. With encroaching development, without special management attention this problem will likely increase. Off-Road vehicle use has created disturbances to at least four of the prehistoric sites. This use poses a serious problem to the integrity of portions of these sites as rutting, road-widening, trailing and other use have damaged artifacts and the deposit, including the archaeological context of portions of these sites. Mining activities have and may damage additional portions of the sites in the area. Such damage has resulted from road construction with bulldozers and trenching.

Special management attention is required to protect these irreplaceable resources from ongoing impacts. Anticipated growth in the immediate vicinity and demands of the growing population of the Redding area will degrade these heritage values without special

protective management actions. Furthermore, periodic mineral exploration in this area of former production will cumulatively impact the identified values. Therefore, designation as an ACEC is warranted to help focus the management attention required to protect the cultural resources and to provide management measures to lessen the potential impacts of mineral exploration and annual assessment work.

TEDOC MOUNTAIN RESEARCH NATURAL AREA

This potential ACEC includes 160 acres of public land in the NW 1/4, Section 28, T. 28 N., R. 9 W. adjoining the Trinity National Forest 7.5 air miles south of Platina in Tehama County (Map 3-10b in packet). This parcel is contiguous with a proposed Special Interest Area designed to protect and conserve endemic plant species. Management in cooperation with the U.S. Forest Service has been considered for some time to provide effective stewardship and physical access from Forest Service road 28N05 which accesses Tedoc Mountain.

The area is largely composed of ultramafic geology with associated plant communities that are both unique and diverse. Within these, a number of serpentine endemic plants are found that are rare and one in particular, the Mt. Tedoc Linanthus, Linthus nuttalli spp. howellii, is a candidate for federal listing. This area is also the type locality (first known location) for at least one of these species, giving the site scientific significance. The area is visited by members of the California Native Plant Society and others interested in the unusual flora and setting of Tedoc Mountain.

The proposed action for this parcel is to transfer administration to the U.S. Forest Service to manage in concert with the proposed Special Interest Area. Designation as an ACEC would serve little purpose and is, therefore, unwarranted.

TRINITY RIVER

This potential ACEC consists of the 100 year flood plain of the Trinity River between Lewiston and North Fork Trinity River (refer to Map 3-5b). Roughly one-half of this corridor is public owned principally under the administration of BLM. The Trinity National Forest administers portions of this potential ACEC above Lewiston and between Browns Creek and Deep Gulch. The State of California and County of Trinity also administers a fraction of this corridor.

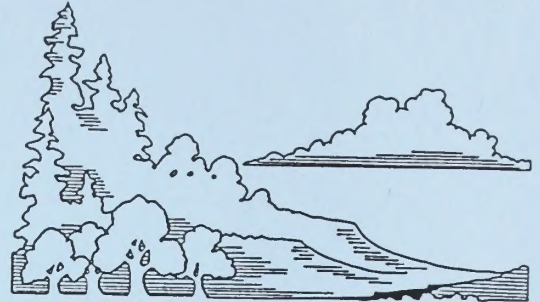
The Trinity possesses outstanding recreational value and a regionally significant fisheries. The river has been included as a Recreational component of the National Wild and Scenic Rivers System through a nomination by a former governor of the State of California.

The Trinity has been negatively affected by water impoundment, upstream logging, rural/suburban residential development, and mining activities both past and present. Federal, state and local agencies are cooperating to ameliorate past impacts to the river, especially the anadromous fish habitat.

The proposed action for the Trinity River includes establishment of a designated corridor which encompasses

the potential ACEC. The river is recommended for withdrawal from mineral entry and for management under VRM Class II guidelines. BLM is also recommending acquisition of undeveloped privately owned and consolidated administration to ensure long term protection of the fisheries, scenic quality, cultural resources, and recreational value of this corridor. ACEC designation is not warranted since BLM has and anticipates sufficient capability to protect this significant river through existing and proposed designations and land use allocations.

APPENDIX D
SPECIAL STATUS SPECIES ON PUBLIC LANDS WITHIN
THE REDDING RESOURCE AREA



APPENDIX D

SPECIAL STATUS SPECIES

KNOWN OR SUSPECTED TO OCCUR ON PUBLIC LAND ADMINISTERED BY BLM IN THE
REDDING RESOURCE AREA

Listed or Candidate Species

ANIMALS

SPECIES	COMMON NAME	FEDERAL STATUS	STATE STATUS	OCCURRENCE
<i>Coccyzus americanus</i>	Yellow Billed Cuckoo	N	R	Known
<i>Empidonax traillii</i>	Willow Flycatcher	N	R	Known
<i>Falco peregrinus</i>	Peregrine Falcon	E	E	Known
<i>Grus canadensis tabida</i>	Greater Sandhill Crane	N	T	Known
<i>Gulo gulo</i>	Wolverine	N	R	Suspected
<i>Haliaeetus leucocephalus</i>	Bald Eagle	E	E	Known
<i>Hydromantes shastae</i>	Shasta Salamander	N	R	Known
<i>Plethodon stormi</i>	Siskiyou Mountain Salamander	N	R	Suspected
<i>Riparia riparia</i>	Bank Swallow	N	T	Known
<i>Strix occidentalis caurina</i>	Northern Spotted Owl	N	T	Known
<i>Vulpes vulpes necator</i>	Sierra Nevada Red Fox	N	R	Suspected

FISH

<i>Catostomus rimiculus</i>	Jenny Creek Sucker	C	N	Known
<i>Chamistes brevirostris</i>	Shortnose Sucker	C	N	Known
<i>Deltistes luxatus</i>	Lost River Sucker	E	E	Known
<i>Oncorhynchus tshawytscha</i>	Chinook Salmon (winter run)	T	E	Known

PLANTS

SPECIES	COMMON NAME	FEDERAL STATUS	STATE STATUS	OCCURRENCE
<i>Agrostis hendersonii</i>	Henderson's Bentgrass	C		Suspected
<i>Arctostaphylos klamathensis</i>	Klamanth Manzanita	C		Suspected
<i>Botrychium ascendens</i>	Triangular-Lobed Moonwort	C		Suspected
<i>Botrychium crenulatum</i>	Crenulate moonwort	C		Suspected
<i>Brodiaea coronaria</i> ssp. <i>rosea</i>	Indian Valley Brodiaea	C	E	Known
<i>Calochortus greenii</i>	Greene's Mariposa	C		Known
<i>Calochortus monanthus</i>	Shasta River Mariposa	C		Suspected
<i>Calochortus persistens</i>	Siskiyou Mariposa	C	R	Suspected
<i>Calycadenia fremontii</i>	Fremont's Calycadenia	C		Known
<i>Chamaesyce hooveri</i>	Hoover's Spurge	C		Suspected
<i>Cirsium ciliolatum</i>	Ashland Thistle	N	E	Suspected
<i>Clarkia borealis</i> ssp. <i>arida</i>	Northern Clarkia	C		Suspected
<i>Cordylanthus tenuis</i> ssp. <i>pallidus</i>	Pallid Bird's Beak	C		Suspected
<i>Cryptantha crinita</i>	Silky Cryptantha	C		Known
<i>Draba carnosula</i>	Mt. Eddy Draba	C		Suspected
<i>Eriastrum brandegeae</i>	Brandegee's Eriastrum	C	R	Known
<i>Fritillaria pluriflora</i>	Adobe-Lily	C		Suspected
<i>Gratiola heterosepala</i>	Boggs Lake Hedge-Hyssop	C	E	Suspected
<i>Ivesia peckeringii</i>	Pickering's Ivesia	C		Suspected
<i>Limnanthes floccosa</i> ssp. <i>bellingeriana</i>	Bellinger's Meadowfoam	C		Suspected
<i>Limnanthes floccosa</i> ssp. <i>californica</i>	Butte County Meadowfoam	C	E	Suspected
<i>Linanthus nuttallii</i> ssp. <i>howellii</i>	Mt. Tedoc Linanthus	C		Suspected

SPECIES	COMMON NAME	FEDERAL STATUS	STATE STATUS	OCCURRENCE
<i>Lupinus antoninus</i>	Anthony Peak Lupine	C		Suspected
<i>Monardella douglasii</i> var. <i>venosa</i>	Veiny Monardella	C		Suspected
<i>Orcuttia pilosa</i>	Hairy Orcutt Grass	C	E	Suspected
<i>Orcuttia tenuis</i>	Slender Orcutt Grass	C	E	Known
<i>Orthocarpus pachystachyus</i>	Shasta Owl's-Clover	C		Suspected
<i>Paronychia ahartii</i>	Ahart's Whitlow-Wort	C		Suspected
<i>Penstemon personatus</i>	Closed-Throated Beardtongue	C		Known
<i>Phacelia cookei</i>	Cooke's Phacelia	C		Suspected
<i>Phacelia dalesiana</i>	Scott Mountain Phacelia	C		Suspected
<i>Phacelia greenei</i>	Scott Valley Phacelia	C		Known
<i>Phlox hirsuta</i>	Yreka Phlox	C	E	Suspected
<i>Poa fibrata</i>	Lassen County Bluegrass	C		Suspected
<i>Rhynchospora californica</i>	California beaked-rush	C		Suspected
<i>Rorippa columbiae</i>	Columbia Yellow Cress	C		Suspected
<i>Sagittaria sanfordii</i>	Sanford's Arrowhead	C		Suspected
<i>Sanicula tracyi</i>	Tracy's Sanicle	C		Suspected
<i>Sedum obtusatum</i> ssp. <i>paradisum</i>	Canyon Creek Stonecrop	C		Known
<i>Sidalcea robusta</i>	Butte County Checker-Mallow	C		Known
<i>Silene occidentalis</i> ssp. <i>longistipitate</i>	Butte County Catchfly	C		Suspected
<i>Streptanthus</i> sp. nov.	Pit River Jewelflower	C		Suspected
<i>Tuctoria greenei</i>	Greene's Orcutt Grass	C	R	Suspected

CODE FOR FEDERAL AND STATE STATUS:

C: Candidate E: Endangered N: Non-Candidate R: Rare T: Threatened

SPECIAL INTEREST PLANTS

Taken from the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California, 4th edition, 1988.

List 1A: Plants presumed extinct in California

List 1B: Plants rare, threatened, or endangered in California & elsewhere

List 2: Plants rare, threatened, or endangered in California but more common elsewhere

List 3: Review list - data needed on distribution, endangerment, taxonomic validity, etc.

List 4: Watch list - plants of limited distribution but low vulnerability

Plants known to occur on BLM lands (*).

NOTE: All species on lists 1A & 1B will be considered as Sensitive Species under the BLM Special Status Species category.

<u>Scientific Name</u>	<u>Common Name</u>	<u>List #</u>
<i>Allium hoffmanii</i>	Beegum onion	4*
<i>Allium siskiyouense</i>	Siskiyou onion	4
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	4
<i>Angelica arguta</i>	angelica	4
<i>Antirrhinum subcordatum</i>	dimorphic snapdragon	1B*
<i>Arabis modesta</i>	modest rock cress	3
<i>Arabis oregana</i>	Oregon rock cress	3
<i>Arabis rigidissima</i>	Trinity Mtns. rock cress	4
<i>Arctostaphylos truei</i>	True's manzanita	3
<i>Arnica cernua</i>	serpentine arnica	4
<i>Arnica spathulata</i> ssp. <i>spathulata</i>	Klamath arnica	4
<i>Arnica venosa</i>	Shasta County arnica	4*
<i>Arnica viscosa</i>	Mt. Shasta arnica	4
<i>Asplenium septentrionale</i>	northern spleenwort (fern)	2

<u>Scientific Name</u>	<u>Common Name</u>	<u>List #</u>
Aster brickelliaides var. brickellioides	brickellbush aster	4
Astragalus inversus	Susanville milk vetch	4
Astragalus pauperculus	depauperate milk vetch	4
Balsamorhiza macrolepis var. macrolepis	balsamroot	
Balsamorhiza sericea	silky balsamroot	4
Bromus polyanthus	Great Basin brome grass	3
Calochortus longebarbatus var. longebarbatus	long-haired star tulip	1B
Calochortus nudus var. shastensis	Shasta star-tulip	3
Calycadenia oppoaitifolia	Butte County calycadenia	4
Calystegia atriplicifolia var. buttenis	Butte County morning glory	3
Campanula scabrella	rough harebell	4
Campanula wilkinsiana	Wilkins' harebell	1B
Cardamine pachystigma var. dissectifolia	dissected-leaf toothwort	3
Carex geeyeri	Geyer's sedge	3
Carex gigas	Siskiyou sedge	4
Castilleja brevilobata	short-lobed Indian paintbrush	4
Castilleja schizotricha	split-hair Indian paintbrush	4
Chaenactis suffrutescens	Shasta chaenactis	4
Chamaesyce ocellata	Stony Creek spurge	4
Clarkia borealis ssp. arida	northern clarkia	4
Clarkia mildrediae	Mildred's clarkia	4
Clarkia mosquinii spp. mosquinii	Mosquin's clarkia	1A
Clarkia mosquinii spp. xerophila	Enterprise clarkia	1A
Claytonia palustris	marsh claytonie	3
Collomia debilis var. larsenii	talus collomia	2
Collomia tracyi	Tracy's collomia	4

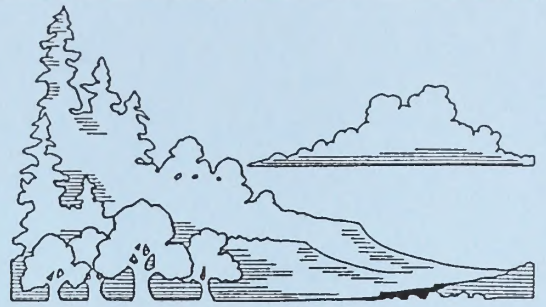
<u>Scientific Name</u>	<u>Common Name</u>	<u>List #</u>
<i>Corydalis caseana</i> ssp. <i>caseana</i>	Sierra corydalis	4
<i>Cryptantha subretusa</i>	Mt. Eddy cryptantha	2
<i>Cupressus bakeri</i> ssp. <i>bakeri</i>	Baker Cypress	4*
<i>Cuscuta howelliana</i>	Boggs Lake dodder	4
<i>Cypripedium californicum</i>	California lady's-slipper	4*
<i>Cypripedium fasciculatum</i>	clustered lady's-slipper	4
<i>Cypripedium montanum</i>	mountain lady's-slipper	4
<i>Darlingtonia californica</i>	California pitcher plant	4
<i>Delphinium uliginosum</i>	swamp larkspur	4
<i>Deschampsia atropurpurea</i>	mountain hairgrass	4
<i>Dicentra formosa</i> ssp. <i>oregana</i>	Oregon bleeding heart	4
<i>Dichelostemma venustum</i>	rose firecracker flower	4
<i>Dimeresia howellii</i>	doublet	4
<i>Draba howellii</i>	Howell's draba	4
<i>Draba pterosperma</i>	winged-seed draba	4
<i>Drosera anglica</i>	English sundew	2
<i>Epilobium canum</i> ssp. <i>septentrionale</i>	Humboldt County fuchsia	4
<i>Epilobium oreganum</i>	Oregon fireweed	4
<i>Epilobium rigidum</i>	Siskiyou Mtns. willowherb	4
<i>Epilobium siskiyouense</i>	Siskiyou fireweed	1B
<i>Erigeron bloomeri</i> var. <i>nudatus</i>	Waldo daisy	2
<i>Erigeron cervinus</i>	Siskiyou daisy	3
<i>Erigeron decumbens</i> var. <i>robustior</i>	robust daisy	4
<i>Erigeron elegantulus</i>	volcanic daisy	4
<i>Erigeron miser</i>	starved daisy	4
<i>Eriogonum congdonii</i>	Congdon's buckwheat	4

<u>Scientific Name</u>	<u>Common Name</u>	<u>List #</u>
<i>Eriogonum libertinii</i>	Dubakella Mtn. buckwheat	4
<i>Eriogonum siskiyouense</i>	Siskiyou buckwheat	4
<i>Eriogonum strictum</i> var. <i>greenei</i>	Greene's buckwheat	4
<i>Eriogonum ternatum</i>	ternate buckwheat	4
<i>Eryngium mathiasae</i>	Mathias' button-celery	4
<i>Erythronium citrinum</i>	lemon-colored fawn lily	4
<i>Erythronium klamathense</i>	Klamath fawn lily	4
<i>Eupatorium shastense</i>	Shasta eupatory	4
<i>Forsellesia stipulifera</i>	stipule-bearing forsellesia	2
<i>Fritillaria eastwoodiae</i>	Butte County fritillary	3*
<i>Fritillaria purdyi</i>	purdy's fritillary	4
<i>Galium serpenticum</i> ssp. <i>scotticum</i>	Scott Mtn. bedstraw	1B
<i>Gentiana setigera</i>	Mendocino gentian	3
<i>Hackelia amethystina</i>	amethyst stickseed	4
<i>Hackelia cusickii</i>	Cusick's stickseed	4
<i>Haplopappus ophitidis</i>	serpentine haplopappus	4*
<i>Helianthus exilis</i>	serpentine sunflower	3
<i>Iliamna bakeri</i>	Baker's globe mallow	4
<i>Iris chrysophylla</i>	yellow-flowered iris	4
<i>Juncus leiospermus</i> var. <i>leiospermus</i>	Red Bluff dwarf rush	1B
<i>Juncus tenuis</i> var. <i>dudleyi</i>	Dudley's rush	3
<i>Lepidium latipes</i>	dwarf pepper-grass	4
<i>Lewisia cantelowii</i>	Cantelow's lewisia	1B
<i>Lewisia cotyledon</i> ssp. <i>heckneri</i>	Heckner's lewisia	1B*
<i>Lewisia cotyledon</i> ssp. <i>howellii</i>	Howell's lewisia	4
<i>Lilium bolanderi</i>	Bolander's lily	4

<u>Scientific Name</u>	<u>Common Name</u>	<u>List #</u>
<i>Lilium rubescens</i>	redwood lily	4
<i>Lilium vollmeri</i>	Vollmer's lily	4
<i>Lilium washingtonianum</i> var. <i>purpurascens</i>	purple-flowered Shasta lily	4
<i>Lilium wigginsii</i>	Wiggins' lily	4
<i>Limnanthes floccosa</i> var. <i>floccosa</i>	woolly meadowfoam	3
<i>Linanthus rattanii</i>	Rattan's linanthus	4
<i>Listera cordata</i>	heart-leaved twayblade	4
<i>Lomatium engelmannii</i>	Engelmann's lomatium	4
<i>Lomatium howellii</i>	Howell's lomatium	4
<i>Lomatium peckianum</i>	Peck's lomatium	2*
<i>Lomatium tracyi</i>	Tracy's lomatium	4
<i>Lotus yollabollensis</i>	Yolla Bolly bird's-foot trefoil	4
<i>Lupinus croceus</i> var. <i>pilosellus</i>	saffron-flowered lupine	4
<i>Lupinus lapidicola</i>	Mt. Eddy lupine	4
<i>Lupinus tracyi</i>	Tracy's lupine	4
<i>Madia stebbinsii</i>	Stebbins' madia	1B
<i>Malacothamnus helleri</i>	Heller's bush mallow	4
<i>Mimulus glaucescens</i>	shield-bracted monkey flower	4
<i>Mimulus lanciniatus</i>	cut-leaved monkey flower	4
<i>Minuartia decumbens</i>	The Lassics sandwort	1B
<i>Minuartia rosei</i>	Peanut sandwort	4*
<i>Monardella purpurea</i>	Siskiyou monardella	4
<i>Navarretia heterandra</i>	Tehama navarretia	4
<i>Navarretia jepsonii</i>	Jepson's navarretia	4
<i>Navarretia subuligera</i>	awl-leaved navarretia	4
<i>Orthocarpus cuspidatus</i>	Siskiyou Mtns. owl's-clover	4

<u>Scientific Name</u>	<u>Common Name</u>	<u>List #</u>
<i>Pedicularis contorta</i>	curved-beak lousewort	2
<i>Pedicularis flavida</i>	Cascade Mtns. lousewort	2
<i>Penstemon cinereus</i>	gray beardtongue	2
<i>Penstemon cinicola</i>	ash beardtongue	4
<i>Penstemon filiformis</i>	thread-leaved penstemon	1B
<i>Penstemon neoterious</i>	Plumas County beardtongue	4
<i>Penstemon purpusil</i>	Snow Mtn. beardtongue	4
<i>Penstemon shastensis</i>	Shasta beardtongue	4
<i>Penstemon leptocarpa</i>	narrow-seeded yampah	4
<i>Phacelia leonis</i>	Siskiyou phacelia	3
<i>Phacelia sericea</i>	blue alpine phacelia	2
<i>Phacelia vallicola</i>	Mariposa phacelia	4
<i>Phlox bryoides</i>	moss phlox	2
<i>Picea engelmannii</i>	Engelmann's spruce	2
<i>Poa rhizomata</i>	timber bluegrass	4
<i>Polygonum bidwelliae</i>	Bidwell's knotweed	4*
<i>Polystichum kruckebergii</i>	Kruckeberg's swordfern	4
<i>Polystichum lonchitis</i>	holly fern	3
<i>Puccinellia howellii</i>	Howell's alkali grass	-
<i>Puccinellia pumila</i>	dwarf alkali grass	3
<i>Quercus lobata</i>	valley oak	4*
<i>Raillardella scabrida</i>	scabrid raillardella	4
<i>Ribes hudsonianum</i> var. <i>petiolare</i>	western black current	2
<i>Salvia dorrii</i> var. <i>carosa</i>	fleshy sage	3
<i>Saxifraga caespitosa</i>	tufted saxifrage	3
<i>Saxifraga howellii</i>	Howell's saxifrage	4

<u>Scientific Name</u>	<u>Common Name</u>	<u>List #</u>
<i>Sedum laxum</i> ssp. <i>flavidum</i>	pale yellow stonecrop	4
<i>Sedum laxum</i> ssp. <i>heckneri</i>	Heckner's stonecrop	4
<i>Senecio eurycephalus</i> var. <i>lewisrosei</i>	cut leaved butterweed	1B
<i>Senecio foetidus</i> var. <i>foetidus</i>	sweet marsh butterweed	3
<i>Sidalcea setosa</i> spp. <i>setosa</i>	Edgewood checkerbloom	4
<i>Silene occidentalis</i> ssp. <i>longistipitata</i>	western campion	3
<i>Silene suksdorfii</i>	Cascade alpine campion	2
<i>Smilax jamesii</i>	English Peak greenbriar	4
<i>Spartina gracilis</i>	alkali cordgrass	4
<i>Stellaria obtusa</i>	obtuse stellaria	3
<i>Stipa lemmonii</i> var. <i>pubescens</i>	pubescent needlegrass	3
<i>Streptanthus drepanoides</i>	sickle-leaved jewelflower	4
<i>Streptanthus tortuosus</i>	mountain jewelflower	3
<i>Tauschia glauca</i>	glaucous tauschia	4
<i>Thelypodium brachycarpum</i>	short-podded thelypodium	4
<i>Thermopsis macrophylla</i> var. <i>argentata</i>	silvery false-lupine	4
<i>Trifolium howellii</i>	Howell's clover	4
<i>Trillium ovatum</i> ssp. <i>oettingeri</i>	Salmon Mtns. wakerobin	4
<i>Triteleia crocea</i> var. <i>crocea</i>	yellow triteleia	4
<i>Triteleia crocea</i> var. <i>modesta</i>	Trinity Mtns. triteleia	4
<i>Vaccinium coccineum</i>	Siskiyou Mtns. huckleberry	3
<i>Veratrum insolitum</i>	Siskiyou false-hellebore	4



APPENDIX E

43 CFR 3809 STANDARDS FOR MINING, CONSTRUCTION AND RECLAMATION IN THE REDDING RESOURCE AREA

The following operational guidelines for mining activities have been compiled to assist the miner in complying with the 43 CFR 3809 regulations, which apply to all mining operations on BLM administered lands. The manner in which the necessary work is to be done will be site specific and all of the following recommendations may not apply to each mining operation. It is the miner's responsibility to avoid "unnecessary or undue degradation" and perform all needed reclamation work. Please refer to the 43 CFR 3809 regulations for general requirements. The BLM will provide site specific guidelines for some mining proposals.

CONSTRUCTION AND MINING

Vegetation Removal

Remove only that vegetation which is in the way of your mining activities. Removed small trees and shrubs are to be lopped and scattered, or shredded for use as mulch. Trees over 12 inches diameter breast height (DBH) are to be bucked and stacked in an accessible location. Merchantable timber (conifers) may not be cut for firewood without BLM authorization. Wood may not be removed from your claim without BLM authorization.

Topsoil

All excavations should have all productive topsoil (usually the top 6 to 12 inches) first stripped, stockpiled and protected from erosion for use in future reclamation. This also includes removal of topsoil before the establishment of mining waste dumps and tailings ponds if the waste material will be left in place during reclamation.

Roads

Existing roads and trails should be used as much as possible. Temporary roads are to be constructed to a minimum width and with minimum cuts and fills. When constructing a permanent new road or blading an exist-

ing road, follow the directions given in Minimum Standards for a Single Lane Road.

California Fish & Game and Water Quality Control Board

When mining will be in or near bodies of water, or sediment will be discharged, contact these agencies. It is the miner's responsibility to obtain any needed suction dredging, 1603 stream bed alteration, or water discharge permits. Copies should be provided to the BLM if a Notice or Plan of Operations is needed.

Claim Monuments

Due to the history of small wildlife deaths, plastic pipe greater than 2 inches in diameter should not be used for claim staking. Existing plastic pipe monuments must have all openings permanently closed. Upon loss or abandonment of the claim, all plastic pipe must be removed.

Drill Sites

Exploratory drill sites should be located next to or on existing roads when possible. Do not block public access. When drill sites have to be bladed, the size of the disturbance should be as small as needed.

Dust & Erosion Control

While in operation, and during periods of temporary shut-down, exposed ground surfaces, susceptible to erosion, will need to be protected. This can be done with seeding, mulching, installation of water diversions, and routine watering of dust producing surfaces.

Fire Safety

All State fire regulations must be followed, including obtaining a campfire permit and a blasting permit if

needed. All internal combustion engines must be equipped with approved spark arresters.

Fuel & Oil Storage

Stored fuel and lubricants, in excess of 55 gallons, must be provided with a secondary means of containing all of the fluids, with sufficient freeboard for added precipitation and runoff. Impervious dikes, pits and ditches leading to sealed sumps are commonly used for this purpose. All storage facilities should be located as far away from waterways as possible.

Safety & Public Exclusion

The general public may not be excluded from your mining claim. In the interest of safety, the general public can be restricted only from specific dangerous areas (underground mines, open pits or heavy equipment) by erecting fences, gates and warning signs. It is your responsibility to protect the public from your mining hazards. Gates may be installed on existing roads only with BLM approval.

Sewage

Self-contained or chemical toilets are to be used whenever possible and their contents disposed of at approved dump stations. An exception to this is under primitive conditions for 3 days or less, human waste and toilet paper may be buried in "cat holes" six inches deep and at least 150 horizontal feet from any water source. Permanent facilities, if needed, must have county and BLM approval.

Outhouses and uncontained pit toilets are generally no longer allowed.

Structures & Occupancy

Any needed structures should be temporary in nature when possible. Occupancy or camping on public land, in excess of 14 days per calendar year, must be reasonably incident to and required for mining operations and will require either a Notice or Plan of Operations.

Suction Dredging

Filing of a Notice or Plan of Operations is not required for most operations. An exception to this is along the Shasta River where the use of a dredge with an intake of more than 3 inches will require a Plan of Operations.

Dredge lines and cables must be flagged and kept at least six feet above floatable waters to protect boaters from possible injury. Don't forget your California Fish & Game dredging permit.

Tailings Ponds

California Dept of Water Resources "Guidelines for the Design and Construction of Small Embankment Dams" should be used if dams are to be constructed. Downstream dam faces should have a 3:1 (run:rise) to aid in reclamation. Settling ponds must be used to contain fines and any discharge must meet Water Quality Control Board standards.

Trash & Garbage

Trash may be burned on site, if allowed by the California Department of Forestry and Fire Protection. Unburned trash, garbage and used oil must be removed from public land and disposed of properly. Do not bury any trash, garbage, or hazardous wastes on public lands. Excessive accumulations of trash, debris, or inoperable equipment on public lands will not be tolerated.

RECLAMATION

Reclamation of all disturbed areas must be performed as soon as possible after mining permanently ceases. Reclamation may be postponed during 2 years of "non-operation" (when mining in an area stops), if future mining is scheduled to resume within 2 years. Minimal assessment work is considered "non-operation".

Equipment and Debris

All equipment, vehicles, structures, debris, and trash must be removed from the public lands, unless BLM authorization is given.

Backfilling & Recontouring.

The first steps in the revegetation of a disturbed site are backfilling excavations and reduction of high walls. Coarse rocky material should be replaced first, followed by medium and fine materials being placed on top. Recontouring means shaping the disturbed area so that it will blend in with the surrounding lands and minimize the possibility of erosion.

Seedbed Preparation

Recontouring should include preparation of an adequate seedbed. This is accomplished by ripping or disk-ing compacted soils to a depth of at least 6" in rocky areas and at least 12" in less rocky areas. This should be done following the contour of the land to limit erosion. All stockpiled settling pond fines, and then topsoil, are spread evenly over the disturbed areas. On slopes, a good seedbed can be formed by driving a cat up and down the slope. Each track mark will be perpendicular to the slope and serve as a depression to collect seed and runoff. Wheeled tractors should not be used as they leave channels parallel to the slope that funnel runoff and cause erosion.

Fertilizer

Due to the poor nutrient value of mined soils, it is important to use a good fertilizer to insure maximum yield from the seeding mixture. The fertilizer should be spread at the rate of 500 lbs/acre and incorporated into the top 2" of soil before seeding and mulching. Fertilizer should not be allowed to enter streams. The recommended fertilizer is (16-20-0); ammonium phosphate with sulfur.

Seeding

BLM approved seeding prescription must be used to provide adequate revegetation for erosion control, wildlife habitat, and productive secondary uses of public land.

Seeding must be done from September 15 to October 31, to ensure that seed is in the ground before the first significant rains.

Seeding Methods

Broadcast seeding is preferable on smaller sites. When using a whirlybird type seed spreader, it is important to keep the different seeds well mixed to achieve even seed

distribution. For the best results, a drag harrow should be pulled over the seeded area to cover the seed before mulching. Hydroseeding can be used on critical sites for rapid cover and erosion control on cut banks, fill slopes and any other disturbed areas. When applied, hydroseeding should not exceed 1/4" thick because excess weight can cause hydroseed to slide on slopes greater than 45 percent.

Mulch

Weed-free straw mulch should be applied at the rate of 2 tons/acre. On slopes greater than 35%, the mulch needs to be punched, netted, or blown on with a tackifier to hold the soil in place. Ryegrass straw should not be used because a toxic reaction with the seedlings inhibits growth.

Tree Replacement

Replacement of destroyed trees may be necessary with the planting of seedlings or container stock.

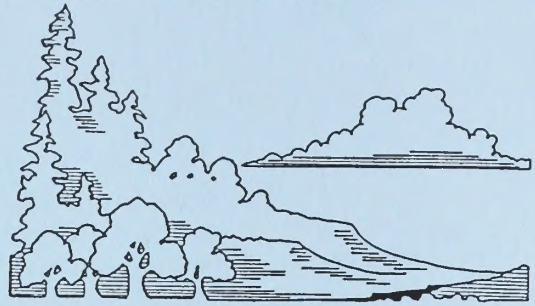
Roads

After mining is completed, all new roads shall be reclaimed, unless otherwise specified by the BLM. High walls and cutbanks are to be knocked down and blended with the surrounding landscape. Remove all culverts from drainage crossings and cut back the fill to the original channel. The roadbed should be ripped to a minimum depth of 12" to reduce compaction and provide a good seedbed. The road must then be fertilized, seeded and mulched. When necessary, waterbars are to be used to block access and provide drainage.

Tailings Ponds

The ponds should be allowed to dry out and the fines removed and spread with the topsoil (unless the fines contain toxic materials). They should then be reclaimed.

APPENDIX F
ASSESSMENT OF MINERAL POTENTIAL
BY MANAGEMENT ALTERNATIVE



APPENDIX F

ASSESSMENT OF MINERAL POTENTIAL

BY MANAGEMENT ALTERNATIVE

The following tables summarize the availability of public land and federal mineral estate by mineral resource potential. The purpose of these tables is to assist the BLM in making land use allocations and inform the public, by quantifying and placing into perspective the amount of land that is being made available for mineral development relative to mineral potential. This quantitative portrayal is required by BLM policy to be included in the RMP.

The data is portrayed as the number of acres in the management areas and within the resource area as a whole by alternative, which are either "open", or "open with no surface occupancy", or "closed" to mineral exploration and development. This mineral development status is compared to the mineral potential of the lands by minerals type: locatable minerals, mineral materials, oil and gas, and geothermal. The definition of the various mineral potentials is described in BLM Manual 3031. Specific mineral information, including mineral potentials, are described in the Redding Resource Area Geology, Energy and Minerals (GEM) Report, available for review in the Redding Resource Area office.

Lands to be exchanged, offered for sale or transferred under the Recreation and Public Purposes Act are considered "open" since exchanges will be the preferred and most likely method of land tenure adjustment. The temporary segregation placed on lands prior to sale, exchange, or R&PP are not counted as lands closed to mineral development. Most of the private lands that are obtained by the U.S. Government in exchanges will be made available for mineral exploration and development, except in those areas where public lands are to be withdrawn from mineral entry. It is expected that, overall, the mineral potential of the offered private lands will be roughly equivalent to that of the selected public lands.

"Open with no surface occupancy" refers to a restriction placed on leasable mineral development activities where the land can be leased and the

minerals can be extracted from under the land, but no surface disturbing activities can occur on the land surface. Directional (slant) drilling from adjacent land is commonly used in areas which are open with no surface occupancy.

"Closed" refers to lands which certain mineral development laws no longer apply. Lands may be closed by withdrawals, segregation, or land classification. There are also certain laws and regulations which define what specific lands will be closed to mineral development. Lands "closed" include: discretionary closures by the BLM (e.g. campgrounds and improvements), and non-discretionary closures by Congress (e.g. wilderness areas) and other agencies (e.g. Federal Energy Regulatory Commission power project withdrawals).

Lands currently withdrawn, which we have recommended to be opened, are considered to be "closed". Lands that we recommend to be withdrawn from mineral entry, are considered to be "closed".

Public land acreage calculations include all public surface/public minerals lands and private surface/public mineral lands. Some of the private surface/public minerals lands are not available for locatable mineral exploitation due to a lack of authorizing regulations. These lands include: Small Tract Act patents and R&PP patents.

Acreage calculations are estimated to the nearest 100 acres.

Limestone is considered a locatable mineral in the RMP, even though it is a mineral material when not of high purity.

This RMP does not consider a "Resource Use" alternative in the Sacramento River Management Area. The table showing the Resource Area-wide impacts under the Resource Use alternative, uses the "No Action" alternative for the Sacramento River Management area.

PROPOSED ACTION

LOCATABLE MINERALS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	0	32200	2900	2500	0	37600
KLAMATH	36200	2100	3900	1000	0	43200
ISHI	92700	15100	2600	1600	0	112000
SHASTA	7700	20700	5400	11900	0	45700
TRINITY	3200	36400	2400	5000	0	47000
YOLLA BOLLY	49100	29200	3700	1000	0	83000
SAC. RIVER	10700	0	0	0	0	10700
TOTAL	199600	135700	20900	23000	0	379200

CLOSED (DISCRETIONARY)

SCOTT	0	100	0	0	0	100
KLAMATH	0	1100	1200	0	0	2300
ISHI	500	1000	0	1400	0	2900
SHASTA	0	100	100	100	0	300
TRINITY	0	400	0	1400	0	1800
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	500	100	100	0	0	700
TOTAL	1000	2800	1400	2900	0	8100

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	200	0	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	300	0	0	0	300
SAC. RIVER	0	0	0	0	0	0
TOTAL	5100	300	0	0	0	5400

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	0	32300	2900	2500	0	37700
KLAMATH	36200	3200	5100	1000	0	45500
ISHI	93400	16100	2600	3000	0	115100
SHASTA	7700	20800	5500	1200	0	46000
TRINITY	8100	36800	2400	6400	0	53700
YOLLA BOLLY	49100	29500	3700	1000	0	83300
SAC. RIVER	11200	100	100	0	0	11400
TOTAL	205700	138800	22300	25900	0	392700

PROPOSED ACTION

MINERAL MATERIALS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	0	37500	200	0	0	37700
KLAMATH	0	45100	0	100	0	45200
ISHI	0	113900	100	100	0	114100
SHASTA	0	45800	0	200	0	46000
TRINITY	0	46500	2100	200	0	48800
YOLLA BOLLY	0	83300	0	0	0	83300
SAC. RIVER	0	9100	500	1800	0	11400
TOTAL	0	381200	2900	2400	0	386500

CLOSED (DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	300	0	0	0	300
ISHI	0	800	0	0	0	800
SHASTA	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	1100	0	0	0	1100

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	0	200	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	0	4900	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	5100	0	0	0	5100

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	0	37500	200	0	0	37700
KLAMATH	0	45400	0	100	0	45500
ISHI	0	114900	100	100	0	115100
SHASTA	0	45800	0	200	0	46000
TRINITY	0	51400	2100	200	0	53700
YOLLA BOLLY	0	83300	0	0	0	83300
SAC. RIVER	0	9100	500	1800	0	11400
TOTAL	0	387400	2900	2400	0	392700

PROPOSED ACTION

OIL & GAS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	37700	0	0	0	0	37700
KLAMATH	10900	29100	0	0	0	40000
ISHI	18400	76400	5900	0	8700	109400
SHASTA	43300	200	0	0	0	43500
TRINITY	46900	0	0	0	0	46900
YOLLA BOLLY	45400	32600	5200	100	0	83300
SAC. RIVER	0	3700	3300	0	0	7000
TOTAL	202600	142000	14400	100	8700	367800

OPEN (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	200	1200	0	0	0	1400
ISHI	2800	1000	300	0	1400	5500
SHASTA	2200	0	0	0	0	2200
TRINITY	1900	0	0	0	0	1900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	2700	1500	200	0	4400
TOTAL	7100	4900	1800	200	1400	15400

CLOSED (DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	4000	0	0	0	4000
ISHI	0	0	0	0	0	0
SHASTA	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	4000	0	0	0	4000

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	100	0	0	0	0	100
ISHI	0	200	0	0	0	200
SHASTA	300	0	0	0	0	300
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	5300	200	0	0	0	5500

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	37700	0	0	0	0	37700
KLAMATH	11200	34300	0	0	0	45500
ISHI	21200	77600	6200	0	10100	115100
SHASTA	45800	200	0	0	0	46000
TRINITY	53700	0	0	0	0	53700
YOLLA BOLLY	45400	32600	5200	100	0	83300
SAC. RIVER	0	6400	4800	200	0	11400
TOTAL	215000	151100	16200	300	10100	392700

PROPOSED ACTION

GEOTHERMAL

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	37700	0	0	0	0	37700
KLAMATH	11200	0	28900	0	0	40100
ISHI	25100	60600	23700	0	0	109400
SHASTA	43600	200	0	0	0	43800
TRINITY	46900	0	0	0	0	46900
YOLLA BOLLY	45500	37800	0	0	0	83300
SAC. RIVER	0	7000	0	0	0	7000
TOTAL	210000	105600	52600	0	0	368200

OPEN (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	200	0	1200	0	0	1400
ISHI	2800	1000	1700	0	0	5500
SHASTA	2200	0	0	0	0	2200
TRINITY	1900	0	0	0	0	1900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	4400	0	0	0	4400
TOTAL	7100	5400	2900	0	0	15400

CLOSED (DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	4000	0	0	4000
ISHI	0	0	0	0	0	0
SHASTA	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	0	4000	0	0	4000

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	0	200	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	4900	200	0	0	0	5100

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	37700	0	0	0	0	37700
KLAMATH	11400	0	34100	0	0	45500
ISHI	27900	61800	25400	0	0	115100
SHASTA	45800	200	0	0	0	46000
TRINITY	53700	0	0	0	0	53700
YOLLA BOLLY	45500	37800	0	0	0	83300
SAC. RIVER	0	11400	0	0	0	11400
TOTAL	222000	111200	59500	0	0	392700

NO ACTION ALTERNATIVE

LOCATABLE MINERALS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	0	32200	2900	2500	0	37600
KLAMATH	36100	3100	4000	1000	0	44200
ISHI	92700	16100	2600	1500	0	112900
SHASTA	7700	20200	5000	12000	0	44900
TRINITY	3200	35700	2400	6200	0	47500
YOLLA BOLLY	48800	25800	3400	800	0	78800
SAC. RIVER	11200	100	100	0	0	11400
TOTAL	199700	133200	20400	24000	0	377300

CLOSED (DISCRETIONARY)

SCOTT	0	100	0	0	0	100
KLAMATH	100	100	1100	0	0	1300
ISHI	500	0	0	1500	0	2000
SHASTA	0	600	500	0	0	1100
TRINITY	0	1100	0	200	0	1300
YOLLA BOLLY	300	3400	300	200	0	4200
SAC. RIVER	0	0	0	0	0	0
TOTAL	900	5300	1900	1900	0	10000

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	200	0	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	300	0	0	0	300
SAC. RIVER	0	0	0	0	0	0
TOTAL	5100	300	0	0	0	5400

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	0	32300	2900	2500	0	37700
KLAMATH	36200	3200	5100	1000	0	45500
ISHI	93400	16100	2600	3000	0	115100
SHASTA	7700	20800	5500	12000	0	46000
TRINITY	8100	36800	2400	6400	0	53700
YOLLA BOLLY	49100	29500	3700	1000	0	83300
SAC. RIVER	11200	100	100	0	0	11400
TOTAL	205700	138800	22300	25900	0	392700

NO ACTION ALTERNATIVE

MINERAL MATERIALS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	0	37500	200	0	0	37700
KLAMATH	0	45400	0	100	0	45500
ISHI	0	114700	100	100	0	114900
SHASTA	0	45800	0	200	0	46000
TRINITY	0	46500	2100	200	0	48800
YOLLA BOLLY	0	83300	0	0	0	83300
SAC. RIVER	0	9100	500	1800	0	11400
TOTAL	0	382300	2900	2400	0	387500

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	0	200	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	0	4900	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	5100	0	0	0	5100

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	0	37500	200	0	0	37700
KLAMATH	0	45400	0	100	0	45500
ISHI	0	114900	100	100	0	115100
SHASTA	0	45800	0	200	0	46000
TRINITY	0	51400	2100	200	0	53700
YOLLA BOLLY	0	83300	0	0	0	83300
SAC. RIVER	0	9100	500	1800	0	11400
TOTAL	0	387400	2900	2400	0	392700

NO ACTION ALTERNATIVE

OIL AND GAS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	37700	0	0	0	0	37700
KLAMATH	1100	34300	0	0	0	45300
ISHI	21200	77300	6200	0	9900	114600
SHASTA	44400	200	0	0	0	44600
TRINITY	48400	0	0	0	0	48400
YOLLA BOLLY	45400	32600	5200	100	0	83300
SAC. RIVER	0	6300	4500	0	0	10800
TOTAL	198200	150700	15900	100	9900	374800

OPEN (NON-DISCRETIONARY)-

SCOTT	0	0	0	0	0	0
KLAMATH	100	0	0	0	0	100
ISHI	0	100	0	0	200	300
SHASTA	1100	0	0	0	0	1100
TRINITY	400	0	0	0	0	400
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	100	300	200	0	600
TOTAL	1600	200	300	200	200	2500

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	100	0	0	0	0	100
ISHI	0	200	0	0	0	200
SHASTA	300	0	0	0	0	300
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	5300	200	0	0	0	5500

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	37700	0	0	0	0	37700
KLAMATH	11200	34300	0	0	0	45500
ISHI	21200	77600	6200	0	10100	115100
SHASTA	45800	200	0	0	0	46000
TRINITY	53700	0	0	0	0	53700
YOLLA BOLLY	45400	32600	5200	100	0	83300
SAC. RIVER	0	6400	4800	200	0	11400
TOTAL	215000	151100	16200	300	10100	392700

NO ACTION ALTERNATIVE

GEOHERMAL

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	37700	0	0	0	0	37700
KLAMATH	11300	0	34100	0	0	45400
ISHI	27900	61600	25100	0	0	114600
SHASTA	44700	200	0	0	0	44900
TRINITY	48400	0	0	0	0	48400
YOLLA BOLLY	45500	37800	0	0	0	83300
SAC. RIVER	0	10800	0	0	0	10800
TOTAL	215500	110400	59200	0	0	385100

OPEN (NO SURFACE OCCUPANCY)

SCOTT	0	0	0	0	0	0
KLAMATH	100	0	0	0	0	100
ISHI	0	0	300	0	0	300
SHASTA	1100	0	0	0	0	1100
TRINITY	400	0	0	0	0	400
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	600	0	0	0	600
TOTAL	1600	600	300	0	0	2500

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	0	200	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	4900	200	0	0	0	5100

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	37700	0	0	0	0	37700
KLAMATH	11400	0	34100	0	0	45500
ISHI	27900	61800	25400	0	0	115100
SHASTA	45800	200	0	0	0	46000
TRINITY	53700	0	0	0	0	53700
YOLLA BOLLY	45500	37800	0	0	0	83300
SAC. RIVER	0	11400	0	0	0	11400
TOTAL	222000	111200	59500	0	0	392700

ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

LOCATABLE MINERALS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	0	0	32200	2900	2500	37600
KLAMATH	36100	3200	3100	1000	0	43400
ISHI	93200	15900	2600	2200	0	113900
SHASTA	7700	19700	4900	12000	0	44300
TRINITY	3200	36400	2400	5000	0	47000
YOLLA BOLLY	49100	29200	3700	1000	0	83000
SAC. RIVER	10800	0	0	0	0	10800
TOTAL	200100	136600	19600	23700	0	389000

CLOSED (DISCRETIONARY)

SCOTT	0	100	0	0	0	100
KLAMATH	100	0	2000	0	0	2100
ISHI	0	200	0	800	0	1000
SHASTA	0	1100	600	0	0	1700
TRINITY	0	400	0	1400	0	1800
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	400	100	100	0	0	600
TOTAL	500	1900	2700	2200	0	7300

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	200	0	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	300	0	0	0	300
SAC. RIVER	0	0	0	0	0	0
TOTAL	5100	300	0	0	0	5400

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	0	32300	2900	2500	0	37700
KLAMATH	36200	3200	5100	1000	0	45500
ISHI	93400	16100	2600	3000	0	115100
SHASTA	7700	20800	5500	12000	0	46000
TRINITY	8100	36800	2400	6400	0	53700
YOLLA BOLLY	49100	29500	3700	1000	0	83300
SAC. RIVER	11200	100	100	0	0	11400
TOTAL	205700	138800	22300	25900	0	392700

ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

MINERAL MATERIALS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	0	37500	200	0	0	37700
KLAMATH	0	43400	0	100	0	43500
ISHI	0	114700	100	100	0	114900
SHASTA	0	45800	0	200	0	46000
TRINITY	0	46500	2100	200	0	48800
YOLLA BOLLY	0	83300	0	0	0	83300
SAC. RIVER	0	9100	500	1800	0	11400
TOTAL	0	380300	2900	2400	0	385600

CLOSED (DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	2000	0	0	0	2000
ISHI	0	0	0	0	0	0
SHASTA	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	2000	0	0	0	2000

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	0	200	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	0	4900	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	5100	0	0	0	5100

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	0	37500	200	0	0	37700
KLAMATH	0	45400	0	100	0	45500
ISHI	0	114900	100	100	0	115100
SHASTA	0	45800	0	200	0	46000
TRINITY	0	51400	2100	200	0	53700
YOLLA BOLLY	0	83300	0	0	0	83300
SAC. RIVER	0	9100	500	1800	0	11400
TOTAL	0	387400	2900	2400	0	392700

ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

OIL AND GAS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	37700	0	0	0	0	37700
KLAMATH	10100	30200	0	0	0	40300
ISHI	20200	77400	6200	0	10100	113900
SHASTA	45300	200	0	0	0	45500
TRINITY	46900	0	0	0	0	46900
YOLLA BOLLY	45400	32600	5200	100	0	83300
SAC. RIVER	0	6300	4400	0	0	10700
TOTAL	205600	146700	15800	100	10100	378300

OPEN (NO SURFACE OCCUPANCY)

SCOTT	0	0	0	0	0	0
KLAMATH	1000	100	0	0	0	1100
ISHI	1000	0	0	0	0	1000
SHASTA	200	0	0	0	0	200
TRINITY	1900	0	0	0	0	1900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	100	400	200	0	700
TOTAL	4100	200	400	200	0	4900

CLOSED (DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	4000	0	0	0	4000
ISHI	0	0	0	0	0	0
SHASTA	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	4000	0	0	0	4000

CLOSED (NON-DISCRETIONARY)-

SCOTT	0	0	0	0	0	0
KLAMATH	100	0	0	0	0	100
ISHI	0	200	0	0	0	200
SHASTA	300	0	0	0	0	300
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	5300	200	0	0	0	5500

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	37700	0	0	0	0	37700
KLAMATH	11200	34300	0	0	0	45500
ISHI	21200	77600	6200	0	10100	115100
SHASTA	45800	200	0	0	0	46000
TRINITY	53700	0	0	0	0	53700
YOLLA BOLLY	45400	32600	5200	100	0	83300
SAC. RIVER	0	6400	4800	200	0	11400
TOTAL	215000	151100	16200	300	10100	392700

ADMINISTRATIVE ADJUSTMENT ALTERNATIVE

GEOTHERMAL

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	37700	0	0	0	0	37700
KLAMATH	10500	0	30000	0	0	40500
ISHI	26900	61600	25400	0	0	113900
SHASTA	45600	200	0	0	0	45800
TRINITY	46900	0	0	0	0	46900
YOLLA BOLLY	45500	37800	0	0	0	83300
SAC. RIVER	0	10700	0	0	0	10700
TOTAL	213100	110300	55400	0	0	378800

OPEN (NO SURFACE OCCUPANCY)

SCOTT	0	0	0	0	0	0
KLAMATH	900	0	100	0	0	1000
ISHI	1000	0	0	0	0	1000
SHASTA	200	0	0	0	0	200
TRINITY	1900	0	0	0	0	1900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	700	0	0	0	700
TOTAL	4000	700	100	0	0	4800

CLOSED (DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	4000	0	0	4000
ISHI	0	0	0	0	0	0
SHASTA	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	0	4000	0	0	4000

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	0	200	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	4900	200	0	0	0	5100

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	37700	0	0	0	0	37700
KLAMATH	11400	0	34100	0	0	45500
ISHI	27900	61800	25400	0	0	115100
SHASTA	45800	200	0	0	0	46000
TRINITY	53700	0	0	0	0	53700
YOLLA BOLLY	45500	37800	0	0	0	83300
SAC. RIVER	0	11400	0	0	0	11400
TOTAL	222000	111200	59500	0	0	392700

ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE

LOCATABLE MINERALS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	0	32200	2900	2500	0	37600
KLAMATH	35100	700	1200	300	0	37300
ISHI	92100	15100	2600	1600	0	111400
SHASTA	7600	20700	5000	11800	0	45100
TRINITY	3200	34400	2400	5000	0	45000
YOLLA BOLLY	49100	28700	3300	1000	0	82100
SAC. RIVER	10700	0	0	0	0	10700
TOTAL	197800	131800	17400	22200	0	369200

CLOSED (DISCRETIONARY)

SCOTT	0	100	0	0	0	100
KLAMATH	1100	2500	3900	700	0	8200
ISHI	1100	1000	0	1400	0	3500
SHASTA	100	100	500	200	0	900
TRINITY	0	2400	0	1400	0	3800
YOLLA BOLLY	0	500	400	0	0	900
SAC. RIVER	500	100	100	0	0	700
TOTAL	2800	6700	4900	3700	0	18100

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	200	0	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	300	0	0	0	300
SAC. RIVER	0	0	0	0	0	0
TOTAL	5100	300	0	0	0	5400

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	0	32300	2900	2500	0	37700
KLAMATH	36200	3200	5100	1000	0	45500
ISHI	93400	16100	2600	3000	0	115100
SHASTA	7700	20800	5500	12000	0	46000
TRINITY	8100	36800	2400	6400	0	53700
YOLLA BOLLY	49100	29500	3700	1000	0	83300
SAC. RIVER	11200	100	100	0	0	11400
TOTAL	205700	138800	22300	25900	0	392700

ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE

MINERAL MATERIALS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	0	37500	200	0	0	37700
KLAMATH	0	45100	0	100	0	45200
ISHI	0	113900	100	100	0	114100
SHASTA	0	45800	0	200	0	46000
TRINITY	0	46500	2100	200	0	48800
YOLLA BOLLY	0	83300	0	0	0	83300
SAC. RIVER	0	9100	500	1800	0	11400
TOTAL	0	381200	2900	2400	0	386500

CLOSED (DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	300	0	0	0	300
ISHI	0	800	0	0	0	800
SHASTA	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	1100	0	0	0	1100

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	0	200	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	0	4900	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	5100	0	0	0	5100
TOTAL	0	387400	2900	2400	0	392700

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	0	37500	200	0	0	37700
KLAMATH	0	45400	0	100	0	45500
ISHI	0	114900	100	100	0	115100
SHASTA	0	45800	0	200	0	46000
TRINITY	0	51400	2100	200	0	53700
YOLLA BOLLY	0	83300	0	0	0	83300
SAC. RIVER	0	9100	500	1800	0	11400
TOTAL	0	387400	2900	2400	0	392700

ENHANCEMENT OF NATURAL AND CULTURAL VALUES ALTERNATIVE

OIL AND GAS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	37700	0	0	0	0	37700
KLAMATH	5000	28100	0	0	0	33100
ISHI	17600	76500	5900	0	8700	108700
SHASTA	42700	200	0	0	0	42900
TRINITY	40500	0	0	0	0	40500
YOLLA BOLLY	44500	32600	5200	100	0	82400
SAC. RIVER	0	3700	3300	0	0	7000
TOTAL	188000	141100	14400	100	8700	352300

OPEN (NO SURFACE OCCUPANCY)

SCOTT	0	0	0	0	0	0
KLAMATH	6100	2200	0	0	0	8300
ISHI	3600	900	300	0	1400	6200
SHASTA	2800	0	0	0	0	2800
TRINITY	8300	0	0	0	0	8300
YOLLA BOLLY	900	0	0	0	0	900
SAC. RIVER	0	2700	1500	200	0	4400
TOTAL	21700	5800	1800	200	1400	30900

CLOSED (DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	4000	0	0	0	4000
ISHI	0	0	0	0	0	0
SHASTA	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	4000	0	0	0	4000

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	100	0	0	0	0	100
ISHI	0	200	0	0	0	210
SHASTA	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	4000	0	0	0	4000

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	37700	0	0	0	0	37700
KLAMATH	11200	34300	0	0	0	45500
ISHI	21200	77600	6200	0	10100	115100
SHASTA	45800	200	0	0	0	46000
TRINITY	53700	0	0	0	0	53700
YOLLA BOLLY	45400	32600	5200	100	0	83300
SAC. RIVER	0	6400	4800	200	0	11400
TOTAL	215000	15100	16200	300	10100	392700

RESOURCE USE WITH NATURAL VALUES CONSIDERATION ALTERNATIVE

LOCATABLE MINERALS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	0	32200	2900	2500	0	37600
KLAMATH	36200	2100	3900	1000	0	43200
ISHI	92700	15100	2600	1600	0	112000
SHASTA	7700	20700	5400	11900	0	45700
TRINITY	3200	36400	2400	5000	0	47000
YOLLA BOLLY	49100	28700	3200	900	0	81900
SAC. RIVER	10700	0	0	0	0	10700
TOTAL	199600	135200	20400	22900	0	378100

CLOSED (DISCRETIONARY)

SCOTT	0	100	0	0	0	100
KLAMATH	0	1100	1200	0	0	2300
ISHI	500	1000	0	1400	0	2900
SHASTA	0	100	100	100	0	300
TRINITY	0	400	0	1400	0	1800
YOLLA BOLLY	0	500	500	100	0	1100
SAC. RIVER	500	100	100	0	0	700
TOTAL	1000	3300	1900	3000	0	9200

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	200	0	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	300	0	0	0	300
SAC. RIVER	0	0	0	0	0	0
TOTAL	5100	300	0	0	0	5400

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	0	32300	2900	2500	0	37700
KLAMATH	36200	3200	5100	1000	0	45500
ISHI	93400	16100	2600	3000	0	115100
SHASTA	7700	20800	5500	1200	0	46000
TRINITY	8100	36800	2400	6400	0	53700
YOLLA BOLLY	49100	29500	3700	1000	0	83300
SAC. RIVER	11200	100	100	0	0	11400
TOTAL	205700	138800	22300	25900	0	392700

RESOURCE USE WITH NATURAL VALUES CONSIDERATION ALTERNATIVE

MINERAL MATERIALS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	0	37500	200	0	0	37700
KLAMATH	0	45100	0	100	0	45200
ISHI	0	113900	100	100	0	114100
SHASTA	0	45800	0	200	0	46000
TRINITY	0	46500	2100	200	0	48800
YOLLA BOLLY	0	83300	0	0	0	83300
SAC. RIVER	0	9100	500	1800	0	11400
TOTAL	0	381200	2900	2400	0	386500

CLOSED (DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	300	0	0	0	300
ISHI	0	800	0	0	0	800
SHASTA	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	1100	0	0	0	1100

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	0	200	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	0	4900	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	5100	0	0	0	5100

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	0	37500	200	0	0	37700
KLAMATH	0	45400	0	100	0	45500
ISHI	0	114900	100	100	0	115100
SHASTA	0	45800	0	200	0	46000
TRINITY	0	51400	2100	200	0	53700
YOLLA BOLLY	0	83300	0	0	0	83300
SAC. RIVER	0	9100	500	1800	0	11400
TOTAL	0	387400	2900	2400	0	392700

RESOURCE USE WITH NATURAL VALUES CONSIDERATION ALTERNATIVE

OIL AND GAS

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	37700	0	0	0	0	37700
KLAMATH	10900	29100	0	0	0	40000
ISHI	18400	76400	5900	0	8700	109400
SHASTA	43300	200	0	0	0	43500
TRINITY	46900	0	0	0	0	46900
YOLLA BOLLY	44300	32600	5200	1000	0	82200
SAC. RIVER	0	6300	4300	0	0	10600
TOTAL	201500	144600	15400	100	8700	370300

OPEN (NO SURFACE OCCUPANCY)

SCOTT	0	0	0	0	0	0
KLAMATH	200	1200	0	0	0	1400
ISHI	2800	1000	300	0	1400	5500
SHASTA	2200	0	0	0	0	2200
TRINITY	1900	0	0	0	0	1900
YOLLA BOLLY	1100	0	0	0	0	1100
SAC. RIVER	0	100	500	200	0	800
TOTAL	8200	2300	800	200	1400	12900

CLOSED (DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	4000	0	0	0	4000
ISHI	0	0	0	0	0	0
SHASTA	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	4000	0	0	0	4000

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	100	0	0	0	0	100
ISHI	0	200	0	0	0	200
SHASTA	300	0	0	0	0	300
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	5300	200	0	0	0	5500

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	37700	0	0	0	0	37700
KLAMATH	11200	34300	0	0	0	45500
ISHI	21200	77600	6200	0	10100	115100
SHASTA	45800	200	0	0	0	46000
TRINITY	53700	0	0	0	0	53700
YOLLA BOLLY	45400	32600	5200	100	0	83300
SAC. RIVER	0	6400	4800	200	0	11400
TOTAL	215000	151100	16200	300	10100	392700

RESOURCE USE WITH NATURAL VALUES CONSIDERATION ALTERNATIVES

GEOTHERMAL

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	37700	0	0	0	0	37700
KLAMATH	11200	0	28900	0	0	40100
ISHI	25100	60600	23700	0	0	109400
SHASTA	43600	200	0	0	0	43800
TRINITY	46900	0	0	0	0	46900
YOLLA BOLLY	44400	37800	0	0	0	82200
SAC. RIVER	0	10600	0	0	0	10600
TOTAL	208900	109200	52600	0	0	370700

OPEN (NO SURFACE OCCUPANCY)

SCOTT	0	0	0	0	0	0
KLAMATH	200	0	1200	0	0	1400
ISHI	2800	1000	1700	0	0	5500
SHASTA	2200	0	0	0	0	2200
TRINITY	1900	0	0	0	0	1900
YOLLA BOLLY	1100	0	0	0	0	1100
SAC. RIVER	0	800	0	0	0	800
TOTAL	8200	1800	2900	0	0	12900

CLOSED (DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	4000	0	0	4000
ISHI	0	0	0	0	0	0
SHASTA	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	0	0	4000	0	0	4000

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	0	200	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER	0	0	0	0	0	0
TOTAL	4900	200	0	0	0	5100

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	37700	0	0	0	0	37700
KLAMATH	11400	0	34100	0	0	45500
ISHI	27900	61800	25400	0	0	115100
SHASTA	45800	200	0	0	0	46000
TRINITY	53700	0	0	0	0	53700
YOLLA BOLLY	45500	37800	0	0	0	83300
SAC. RIVER	0	11400	0	0	0	11400
TOTAL	222000	11200	59500	0	0	392700

RESOURCE USE ALTERNATIVE

LOCATABLE MINERALS

* The Resource Use Alternative was not considered for the Sacramento River Management Area. The numbers used below for that management area are from the No Action Alternative.

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	0	32200	2900	2500	0	37600
KLAMATH	36100	3200	5100	1000	0	45400
ISHI	93200	16100	2500	2900	0	114700
SHASTA	7700	19700	4900	12000	0	44300
TRINITY	3200	36600	2400	6200	0	48400
YOLLA BOLLY	49100	29200	3700	1000	0	83000
SAC. RIVER *	11200	100	100	0	0	11400
TOTAL	200500	137100	21600	25600	0	384800

CLOSED (DISCRETIONARY)

SCOTT	0	100	0	0	0	100
KLAMATH	100	0	0	0	0	100
ISHI	0	0	100	100	0	200
SHASTA	0	1100	600	0	0	1700
TRINITY	0	200	0	200	0	400
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER *	0	0	0	0	0	0
TOTAL	100	1400	700	300	0	2500

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	200	0	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	300	0	0	0	300
SAC. RIVER *	0	0	0	0	0	0
TOTAL	5100	300	0	0	0	5400

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	0	32300	2900	2500	0	37700
KLAMATH	36200	3200	5100	1000	0	45500
ISHI	93400	16100	2600	3000	0	115100
SHASTA	7700	20800	5500	12000	0	46000
TRINITY	8100	36800	2400	6400	0	53700
YOLLA BOLLY	49100	29500	3700	1000	0	83300
SAC. RIVER *	11200	100	100	0	0	11400
TOTAL	205700	138800	22300	25900	0	392700

RESOURCE USE ALTERNATIVE

MINERAL MATERIALS

* The Resource Use Alternative was not considered for the Sacramento River Management Area. The numbers used below for that management area are from the No Action Alternative.

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	0	37500	200	0	0	37700
KLAMATH	0	45400	0	100	0	45500
ISHI	0	114700	100	100	0	114900
SHASTA	0	45800	0	200	0	46000
TRINITY	0	46500	2100	200	0	48800
YOLLA BOLLY	0	83300	0	0	0	83300
SAC. RIVER *	0	9100	500	1800	0	11400
TOTAL	0	382300	2900	2400	0	387600

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	0	200	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	0	4900	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER *	0	0	0	0	0	0
TOTAL	0	5100	0	0	0	5100

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	0	37500	200	0	0	37700
KLAMATH	0	45400	0	100	0	45500
ISHI	0	114900	100	100	0	115100
SHASTA	0	45800	0	200	0	46000
TRINITY	0	51400	2100	200	0	53700
YOLLA BOLLY	0	83300	0	0	0	83300
SAC. RIVER *	0	9100	500	1800	0	11400
TOTAL	0	387400	2900	2400	0	392700

RESOURCE USE ALTERNATIVE

OIL AND GAS

* The Resource Use Alternative was not considered for the Sacramento River Management Area. The numbers used below for that management area are from the No Action Alternative.

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	37700	0	0	0	0	37700
KLAMATH	11000	34200	0	0	0	45200
ISHI	20900	77400	6200	0	10100	114600
SHASTA	45300	200	0	0	0	45500
TRINITY	48400	0	0	0	0	48400
YOLLA BOLLY	45400	32600	5200	100	0	83300
SAC. RIVER *	0	6300	4500	0	0	10800
TOTAL	208700	150700	15900	100	10100	385500

OPEN (NO SURFACE OCCUPANCY)

SCOTT	0	0	0	0	0	0
KLAMATH	100	100	0	0	0	200
ISHI	300	0	0	0	0	300
SHASTA	200	0	0	0	0	200
TRINITY	400	0	0	0	0	400
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER *	0	100	300	200	0	600
TOTAL	1000	200	300	200	0	1700

CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	100	0	0	0	0	100
ISHI	0	200	0	0	0	200
SHASTA	300	0	0	0	0	300
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER *	0	0	0	0	0	0
TOTAL	5300	200	0	0	0	5500

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	37700	0	0	0	0	37700
KLAMATH	11200	34300	0	0	0	45500
ISHI	21200	77600	6200	0	10100	115100
SHASTA	45800	200	0	0	0	46000
TRINITY	53700	0	0	0	0	53700
YOLLA BOLLY	45400	32600	5200	100	0	83300
SAC. RIVER *	0	6400	4800	200	0	11400
TOTAL	215000	151100	16200	300	10100	392700

RESOURCE USE ALTERNATIVE

GEOTHERMAL

* The Resource Use Alternative was not considered for the Sacramento River Alternative. The numbers below for that management area are from the No Action Alternative.

OPEN

	NO POTENTIAL	LOW POTENTIAL	MODERATE POTENTIAL	HIGH POTENTIAL	UNKNOWN POTENTIAL	TOTAL
SCOTT	37700	0	0	0	0	37700
KLAMATH	11300	0	34000	0	0	45300
ISHI	27600	61600	25400	0	0	114600
SHASTA	45600	200	0	0	0	45800
TRINITY	48400	0	0	0	0	48400
YOLLA BOLLY	45500	37800	0	0	0	83300
SAC. RIVER *	0	10800	0	0	0	10800
TOTAL	216100	110400	59400	0	0	385900

OPEN (NO SURFACE OCCUPANCY)

SCOTT	0	0	0	0	0	0
KLAMATH	100	0	100	0	0	200
ISHI	300	0	0	0	0	300
SHASTA	200	0	0	0	0	200
TRINITY	400	0	0	0	0	400
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER *	0	600	0	0	0	600
TOTAL	1000	600	100	0	0	1700

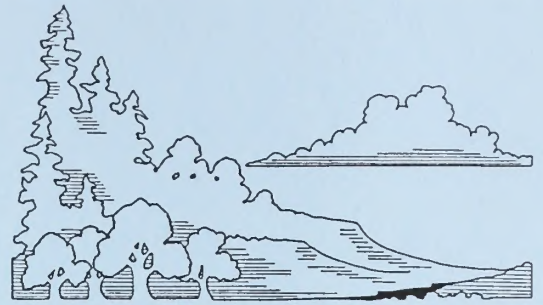
CLOSED (NON-DISCRETIONARY)

SCOTT	0	0	0	0	0	0
KLAMATH	0	0	0	0	0	0
ISHI	0	200	0	0	0	200
SHASTA	0	0	0	0	0	0
TRINITY	4900	0	0	0	0	4900
YOLLA BOLLY	0	0	0	0	0	0
SAC. RIVER *	0	0	0	0	0	0
TOTAL	4900	200	0	0	0	5100

SUMMARY OF POTENTIALS BY MANAGEMENT AREA

SCOTT	37700	0	0	0	0	37700
KLAMATH	11400	0	34100	0	0	45500
ISHI	27900	61800	25400	0	0	115100
SHASTA	45800	200	0	0	0	46000
TRINITY	53700	0	0	0	0	53700
YOLLA BOLLY	45500	37800	0	0	0	83300
SAC. RIVER *	0	11400	0	0	0	11400
TOTAL	222000	111200	59500	0	0	392700

APPENDIX G FOREST LAND CLASSIFICATIONS



APPENDIX G

FOREST LAND CLASSIFICATIONS

The following tables outline the acres of "available commercial forest land" and "other" forest land in each management area by management category. Lands available for "intensive" management of forest products are areas where forest management is the primary use and where other resources or values occur but are not emphasized. "Restricted" management refers to areas where multiple use or other resource values are emphasized but timber harvest occurs. The "enhancement of other uses" category is where forest management activities are specifically for the benefit of other resource uses or values. No forest management is planned in the areas classified as "not available". Refer to Management Guidance and Decisions Common To All Alternatives, Forest and Woodland Management, for a further description of the categories.

The intensive, restricted, and enhancement of other uses categories combined constitute the available commercial forest land (ACFL) which is the acreage used to calculate an annual allowable harvest. Although the

acreage in the enhancement of other uses category is included in the ACFL its contribution to the annual allowable harvest will be minimal due to the severe management restrictions placed on land in that category.

Since the true number of acres under management for each alternative is unknown the acres identified reflect existing acres only and do not account for the possible acreage fluctuations as a result of exchanges, sales or acquisitions. All "available commercial forest land" identified for disposal in the various alternatives is classified as "restricted" due to the limited forest management practices applied to those parcels. Due to the above conditions these tables should be used for comparative purposes only.

The "acreage trend" column is used to indicate the general trend in the available commercial forest land acreage for each alternative if fully implemented. Acreage numbers are not used because that information is not known at this time.

Timber Land Classifications / Acres

Management Area/ Alternative	intensive	restricted	enhancement of other uses	not available	acreage trend
SCOTT VALLEY					
no action	2955	4246	0	9902	n/a
admin. adjustment	0	7031	170	9902	down
enhancement of other resources	0	0	6201	10902	down
resource use with natural values	800	5011	890	10402	up
resource use	1983	4830	1290	9000	down

Management Area/ Alternative	Timber Land Classifications / Acres				
	intensive	restricted	enhancement of other uses	not available	acreage trend
KLAMATH					
no action	0	1039	440	7489	n/a
admin.adjustment	0	959	520	7489	down
enhancement of other resources	0	0	1289	7679	up
resource use with natural values	0	699	680	7589	down
resource use	1069	170	240	7489	down
SHASTA					
no action	290	4251	0	11411	n/a
admin. adjustment	0	4541	0	11411	down
enhancement of other resources	0	0	4341	11611	up
resource use with natural values	450	3741	350	11411	up
resource use	4000	1441	300	10211	up
TRINITY					
no action	5320	10313	0	22118	n/a
admin. adjustment	0	13736	1897	22118	down
enhancement of other resources	0	0	15233	22518	up
resource use with natural values	3000	10384	2049	22318	up
resource use	10150	3776	1898	21918	up

Management Area/ Alternative	Timber Land Classifications / Acres				
	intensive	restricted	enhancement of other uses	not available	acreage trend
ISHI					
no action	3630	4076	0	15821	n/a
admin. adjustment	400	6806	500	15821	down
enhancement of other resources	0	0	7506	16021	down
resource use with natural values	880	5826	800	16021	down
resource use	3900	4126	140	15361	up
YOLLA BOLLY					
no action	40	2551	0	7700	n/a
admin. adjustment	0	2591	0	7700	down
enhancement of other resources	0	0	2291	8000	up
resource use with natural values	100	1991	300	7900	up
resource use	1600	1091	100	7500	up



GLOSSARY

ACTIVITY PLAN:

A more detailed and specific plan or program of actions to implement RMP decisions regarding one or more resources over some specified time period. Examples include allotment management plan, recreation area management plan, habitat management plan and integrated resources activity plan.

ALLOTMENT:

An area of land assigned to one or more livestock operators for grazing livestock. Allotments generally consist of BLM land but may also include state-owned and private land. An allotment may include one or more separate pastures. Livestock numbers and seasons of use are specified for each allotment.

ALLOTMENT MANAGEMENT PLAN (AMP):

A livestock grazing management plan for a specific allotment based on multiple-use resource management objectives. The AMP considers livestock grazing in relation to other uses of the range and in relation to renewable resources - watershed, vegetation and wildlife. An AMP establishes the seasons of use, the number of livestock to be permitted on the range and the rangeland developments needed.

ANADROMOUS SALMONIDS:

Anadromous salmonids in this document refers to chinook and coho salmon and steelhead trout. Anadromous refers to the natural life cycle of these species requiring freshwater habitat for the egg laying to juvenile stages of development and estuary or ocean habitat for the primary growth stage culminating in mature adults which return to freshwater to spawn and repeat the cycle.

ANIMAL UNIT MONTH (AUM):

The amount of forage necessary for the complete sustenance of one cow, or its equivalent (one horse or five sheep, all over six months old) for one month; also, a unit of measurement of grazing privilege that represents the privilege of grazing one animal for a period of one month.

ARCHAEOLOGICAL RESOURCES:

Sites, areas, structures, objects, or other evidence of prehistoric or historic human activities.

ARCHAEOLOGICAL SITE:

Geographic locale containing structures, artifacts, material remains, and/or other evidence(s) of past human activity.

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

An area of public land that requires special management attention in order to protect and prevent irreparable damage to important historic, cultural or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.

ARRASTRE:

An early gold recovery device consisting of a stone-lined pit utilizing drag stones to grind the ore. Water was added as the stones were pulled around the pit. The resulting mud could be panned or sluiced to collect the gold.

AVAILABLE UNIMPROVED LAND:

Lands which are offered to BLM (or BLM cooperators) for acquisition and which contain improvements which represent less than 20% of the total value of the land.

BIOLOGICAL ASSESSMENT:

A procedural step in the interagency consultation process under Section 7 of the Endangered Species Act where the BLM submits a written summary of potential project impacts to threatened or endangered species to the USFWS for their evaluation.

CADASTRAL SURVEY:

A survey which creates, makes, defines, retraces, or reestablishes boundaries and subdivisions of the public land of the United States.

CANDIDATE SPECIES:

Candidate species are any species not yet officially listed, but are undergoing a status review or are proposed for listing according to Federal Register notices published by the Secretary of the Interior or the Secretary of Commerce.

CANOPY:

The continuous cover of branches and foliage formed collectively by the crowns of adjacent trees and other woody growth.

CLASSIFICATION:

The process of determining whether the lands are more valuable or suitable for transfer or use under particular or various public land laws than for retention in Federal ownership for management purposes.

COMMERCIAL FOREST LAND (CFL):

Forest land that is capable of yielding at least twenty cubic feet of wood per acre per year of commercial coniferous tree species.

CRITICAL HABITAT:

Any habitat, which if lost, would appreciably decrease the likelihood of the survival and recovery of a threatened or endangered species, or a distinct segment of its population. Critical habitat may represent any portion of the present habitat of a listed species and may include additional areas for reasonable population expansion. Critical habitat must be officially designated as such by the Fish and Wildlife Service or the National Marine Fisheries Service.

CULTURAL RESOURCES:

Those fragile and nonrenewable remains of human activities, occupations, and endeavors as reflected in sites, buildings, structures, or objects, including works of art, architecture, and engineering. Cultural resources are commonly discussed as prehistoric and historic values, but each period represents a part of the full continuum of cultural values from the earliest to the most recent.

CUMULATIVE IMPACT:

The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

DESIGNATED RIGHT-OF-WAY CORRIDOR:

A parcel of land either linear or areal in character that has been identified by law, by Secretarial Order, through the land-use planning process or by other management decision as being a preferred location for existing and future right-of-way grants and suitable to accommodate more than one type of right-of-way or one or more rights-of-way which are similar, identical or compatible.

DESIRED PLAN COMMUNITY (DPC):

A plant community which produces the kind, amount, and proportion of vegetation needed to meet or exceed the land use/activity plan objectives established for the site. The DPC must be within the capability of a site to produce the desired vegetation through management, land treatment, or a combination of both.

EASEMENT:

A limited right or interest in the land of another entitling the holder to some use, privilege, or benefit.

ENDANGERED SPECIES:

Any species formally recognized by the U.S. Fish and Wildlife Service as in danger of extinction throughout all or a significant portion of its range.

ENVIRONMENTAL ASSESSMENT (EA):

The procedure for analyzing the impacts of some proposed action on a given environment and the documentation of the analysis. An EA is conducted to ascertain the need to develop an Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT STATEMENT (EIS):

A written analysis of the significant impacts on the environment of a proposed project or resource management plan.

EXCAVATION (archaeological):

The scientifically controlled recovery or subsurface materials and information from an archaeological site. Recovery techniques are relevant to research problems and are designed to produce maximum knowledge about the site's use, its relation to other sites and the natural environment, and its significance in the maintenance of the cultural system under study.

EXCHANGE:

A conveyance of lands and interests therein from the United States to a person at the same time there is a conveyance of lands and interests therein from the person to the United States.

FAIR MARKET VALUE:

The value of specific land(s) in terms of dollars which is established through a professional appraisal prior to sale of the land(s).

FEDERAL CANDIDATE SPECIES:

Category 1: Plant and animal species for which the U.S. Fish and Wildlife Service currently has on file substantial information to support a proposal to list as threatened or endangered.

Category II: Plant and animal species for which current information indicates that a proposal to list as threatened or endangered is possibly appropriate, but for which more information is needed to support a listing proposal.

FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976 (FLPMA):

Public Law 94-579, which gives the BLM legal authority to establish public land policy, to establish guidelines for administering such policy and to provide for the management, protection, development and enhancement of the public land.

FEDERAL MINERAL RESERVE ESTATE:

The ownership of the right to all or certain minerals in the land, or reservation of fractional interest in all or certain minerals in perpetuity or for a specified period of time by the Federal government. See "SPLIT ESTATE".

FLOODPLAIN:

The nearly level alluvial plain that borders a stream or river and is subject to inundation during high water periods; the relatively flat area or lowland adjoining a body of standing or flowing water which has been or might be covered by floodwaters.

FLUID MINERALS:

Geothermal, gas, and oil.

FREE FLOWING:

A stream which is existing or flowing in natural condition without significant impoundment, diversion, straightening, rip-rapping, or other modification of the waterway.

GEOLOGY, ENERGY, AND MINERALS (GEM) REPORT:

A mineral assessment report which determines the mineral potential for the resource area, including a description of the process for making the determinations. The GEM assessment was carried out through a literature study of the geology, mineral occurrence, and mineral development history of the resource area, as well as consideration of the regional paleogeographic and plate tectonic setting of northern California. Most of the literature and data sources used in the preparation of this report are available for review in the Redding Resource Area. Mineral potentials are determined and assigned to lands as described in the BLM 3031 Manual, Mineral Potential Classification System. Potentials are rated as "no", "low", "moderate", "high", and "medium".

HABITAT CONSERVATION AREA (HCA):

The term is used in the interagency report on spotted owls commonly referred to as the Jack Ward Thomas Report. A habitat conservation area is a block of habitat capable of supporting a single pair of spotted owls or up to 50 pairs of spotted owls.

HABITAT MANAGEMENT PLAN (HMP):

A written and officially approved plan for a specific geographic area which identifies wildlife habitat and related objectives, establishes the sequence of actions for achieving objectives and outlines procedures for evaluating accomplishments.

INTERIM MANAGEMENT POLICY AND GUIDELINES FOR LAND UNDER WILDERNESS REVIEW (IMP):

A BLM document, dated December 12, 1979, which defines the policy for management of wilderness study areas so as not to impair their suitability for preservation as wilderness. The IMP will apply to the land until Congress determines whether or not it is to be designated wilderness.

ISOLATED FIND:

An occurrence of a single artifact or cultural feature including stone tools, milling tools, and other artifacts.

LAND USE MANAGEMENT ALTERNATIVE:

The alternatives developed in Chapter 3 of this RMP to assist BLM in resolving the major planning issues and management concerns within each management area.

LEASABLE MINERALS:

Minerals such as coal, oil shale, oil and gas, phosphate, potash, sodium, and geothermal resources that may be acquired under the Mineral Leasing Act of 1920, as amended. Yearly lease rentals and production royalties are paid to the Federal Government.

LEASE:

An instrument through which interests are transferred from the Federal government via BLM to a private or public entity subject to certain obligations and considerations.

LITHIC SCATTER:

A prehistoric site characterized by a scatter of stone tools and flakes that may indicate a number of functions.

LOCATABLE MINERALS:

Minerals or materials subject to disposal and development through the Mining Law of 1872 (as amended). Generally includes metallic minerals such as gold, silver, copper, iron, and all other minerals not subject to lease or sale (some bentonites, limestone, talc, gypsum, etc).

LODE CLAIM:

A mining claim located for a mineral deposit consisting of veins, veinlets, or disseminations in solid rock, e.g., gold-bearing quartz veins.

MANAGEMENT AREA:

A discrete portion of the total planning area that has common features, problems, and/or management needs, that lends itself to specific treatment and analysis in this RMP.

MANO:

A cobble used on a flat rock surface to grind native food products, usually hard seeds, to produce a flour. Such tools exhibit grinding scars and polish.

MASSIVE SULFIDE DEPOSIT:

An ore deposit characterized by a great concentration of metallic sulfide minerals in one place. Iron Mountain Mine, northwest of Redding, is an example of such a deposit.

MEMORANDUM OF UNDERSTANDING (MOU):

Signed pact between two or more entities agreeing to some course of action.

MIDDEN:

Largely decomposed cultural refuse and remains from campfires, tool making, collapsed structure and other human activities localized to one spot resulting in a noticeable soil discoloration and build-up, sometimes, this back-up can result in a large mound covering a few acres.

MILLING STATION (archaeological):

Portable or bedrock milling artifacts or features including metates, bedrock grinding slicks, and mortars (in isolation or in groups).

MINERAL ENTRY:

The location of mining claim(s) by an individual to protect his discovery right to a valuable mineral deposit.

MINERAL MATERIALS:

Minerals such as common varieties of sand, stone, gravel, pumicite and clay that may be acquired under the Materials Act of 1947, as amended through BLM sales at fair market value or free use permits to government agencies.

MINERAL WITHDRAWALS:

Closure of land to specific mineral development laws such as the Mining Law of 1872 and the Mineral Leasing Act of 1920. Withdrawal of public lands are subject to valid existing rights such as valid mining claims and mineral leases which precede the withdrawal.

MITIGATION:

The lessening of a potential adverse effect by applying appropriate protection measures, the recovery of cultural resource data or other measures.

MITIGATION MEASURES:

Methods or procedures committed to by BLM for the purpose of reducing or lessening the impacts of an action.

MORTAR (archaeological):

A cupped grinding slab used with an elongated cobble to pulverize softer native food products, such as acorns.

MOTORIZED TRAVEL:

Travel in any motorized vehicle for recreation purposes; including driving or riding in off-highway vehicle (OHV) areas.

MULTIPLE USE:

The management of public land and its various resource values so that they are used in the combination that will best meet present and future public needs. Multiple-use is applied on an areal basis and rarely, if ever, on a point basis.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) OF 1969:

A law enacted on January 1, 1970 that established a national policy to maintain conditions under which man and nature can exist in productive harmony and fulfill the social economic and other requirements of present and future generations of Americans. It established the Council on Environmental Quality for coordinating environmental matters at the federal level and to serve as advisor to the President on such matters. The law made all federal actions and proposals which could have significant impact on the environment subject to review by federal, state and local environmental authorities.

NATIONAL HISTORIC PRESERVATION ACT (NHPA):

The primary federal law providing for the protection and preservation of our cultural resources. Making it a national policy to preserve our cultural heritage, NHPA established the National Register of Historic Places, the Advisory Council on Historic Preservation and State Historic Preservation and State Historic Preservation Officers.

NATIONAL REGISTER OF HISTORIC PLACES (NRHP):

A list of districts, sites, buildings, structures and objects significant in American history, architecture, archaeology and culture maintained by the Secretary of the Interior. Expanded as authorized by Section 2(b) of the Historic Sites Act of 1935 (16 U.S.C. 462) and Section 101(a)(1) (A) of the National Historic Preservation Act of 1966 (as amended).

NATIONAL WILD AND SCENIC RIVERS SYSTEM (NWSRS):

A system of rivers created under Public Law 90-542 (October 2, 1968) as amended by Public Law 99-590 (October 30, 1986), which preserves certain rivers or sections thereof in their free-flowing condition and that their immediate environments shall be protected for the benefit and enjoyment of present and future generations.

NATIVE AMERICAN (INDIAN):

An individual who traces his or her genealogy to the aboriginal inhabitants of the planning area. These persons are also referred to as "Indians" or "Native American Indians".

NO ACTION:

An alternative to the Proposed Action required for analysis by NEPA. In this RMP the NO ACTION alternative is a continuation of the existing management decisions of the 1982 Redding Management Framework Plan Amendment.

OFF-HIGHWAY VEHICLE (OHV):

Any motorized vehicle designed for cross-country travel over any type of natural terrain. Exclusions (from Executive Order 11644, as amended by Executive Order 11989) are any military, fire, emergency or law enforcement vehicles while being used for emergency purposes, any vehicle whose use is expressly authorized or otherwise officially approved, vehicles in official use and any combat support vehicle in times of national defense emergencies.

OLD GROWTH FOREST:

A forested area which includes relatively old and undisturbed coniferous trees as well as endemic species which inhabit these ecological settings.

OPEN SPACE:

Unimproved land.

OUTSTANDING NATURAL AREA (ONA):

Area of outstanding scenic splendor or natural beauty that merits special attention and care to ensure its preservation in a natural condition for the enjoyment of present and future visitors.

OUTSTANDINGLY REMARKABLE VALUE:

A resource value or natural element of a stream being considered for inclusion in the National Wild and Scenic Rivers System which is extraordinary within the region or (for the purposes of this RMP) within the planning area.

PATENT:

A government deed that conveys legal title for land to an individual or another government entity.

PLACER CLAIM:

A mining claim located for a surface mineral deposit formed by a natural concentration of a valuable mineral, e.g. gold, particles in weathered debris, e.g. sand and gravel.

PLANNING AREA:

The geographic area treated by this RMP. This area is identified to the Redding Resource Area.

PREFERRED ALTERNATIVE:

This land use management alternative selected by BLM for a management area. This term is synonymous with proposed action.

PREHISTORIC:

Refers to period wherein aboriginal cultural activities took place which were not yet influenced by contact with historic non-native culture(s).

PRESCRIBED BURNING:

The application of fire to wildland fuels under such conditions of weather, fuels, and topography that specific objectives are accomplished safely.

PRIMITIVE:

Characterized by an essentially unmodified natural environment isolated from the rights and sounds of man. No facilities are provided.

PRODUCTIVE FOREST BASE:

This term is often preceded with the adjective "AVAILABLE". In either case it is commercial forest land which is available for sustained yield forestry management.

PROPOSED ACTION:

The individual land use management alternative selected for implementation by BLM for each management area. The aggregate of these preferred alternatives is the proposed action of the RMP as a whole.

PUBLIC LAND:

Land administered by the Bureau of Land Management.

PUBLIC LAND INTERESTS:

Any and all interests associated with land which are owned by the Federal government, including mineral rights, water rights, rights-of-way, improvements or the actual surface of the land.

RAPTOR:

Any bird of prey with sharp talons and strongly curved beaks; e.g., hawks, owls, eagles, falcons.

RECREATION AND PUBLIC PURPOSES ACT (R&PP):

This act authorizes the Secretary of the Interior to lease or convey public land for recreational and public purposes under specified conditions to states or their political subdivisions and to nonprofit corporations and associations.

RECREATION OPPORTUNITY SPECTRUM (ROS):

A method for classifying the land by setting opportunity, according to the ability of the land to provide various types of physical, social, and managerial settings to satisfy the desires and expected behavioral preferences of the users.

RECREATIONAL MINERAL COLLECTION:

The collecting of mineral specimens, primarily placer, such as gold, platinum, and other mineral materials, for the purpose of recreational satisfaction rather than financial gain.

RESIDUAL MULCH:

The amount of old plant material left on the ground at the beginning of a new growing season. It is an important indicator of the previous season's use and can be used to describe the health or condition of annual rangelands.

RESEARCH NATURAL AREA (RNA):

A natural area established and maintained for research and education, which may include (1) typical or unusual plant or animal types, associations or other biotic phenomena or (2) characteristics or outstanding geologic, soil or aquatic features or processes. The public may be excluded or restricted from such areas to protect studies.

RESOURCE AREA:

The smallest geographic administrative unit of the BLM. Resource areas compose BLM districts.

RIGHT-OF-WAY GRANT:

A right attached to the land for use by another party (i.e., utility lines, road, etc.)

RIPARIAN:

An area of land directly influenced by permanent water which has visible vegetation or physical characteristics reflective of this permanent water influence. Normally used to refer to the plants of all types that grow rooted in the watertable of streams, ponds and springs.

RIPARIAN CLASS I:

Excellent, negligible use/damage; well-rooted vegetation (primarily grasses, sedges, and forbs); very little, if any erosion from vegetation areas, less than 5 percent bare soil showing along the shore line.

RIPARIAN CLASS II:

Good, some use/damage; vegetation generally well-rooted; sod mostly intact; soil showing in places (6 percent to 15 percent bare soil showing overall); some surface erosion evident.

ROADED NATURAL:

Characterized by a generally natural environment with moderate evidence of man and about equal opportunities for isolation from or interaction with the sights and sounds of man. Rustic facilities are provided for user safety and convenience as well as resource protection. Conventional motorized use is provided for in construction standards and design of facilities.

RURAL:

Characterized by substantial modifications to the natural environment and ready evidence of the sights and sounds of man. Opportunities for interaction with others are prevalent. Facilities are designed for user convenience and may be provided for specialized activities. User concentrations are moderate to high.

SALABLE MINERALS:

A term synonymous with mineral materials which are made available for sale under the provisions of the Mineral Materials Act of 1947, as amended.

SCENIC QUALITY:

The relative worth of a landscape from a visual perception point of view, evaluated in terms of landform, vegetation, water, color, adjacent scenery, scarcity and cultural modifications.

SEGREGATION:

The removal for a limited period, subject to valid existing rights, of a specific area of the public lands from the operation of the public land laws, including the mining laws, pursuant to the exercise by the Secretary of the Interior regulatory authority as conferred by law to allow for the orderly administration of the public lands.

SEMI-PRIMITIVE:

Characterized by a predominantly unmodified natural environment with some opportunity for isolation from the sights and sounds of man. Limited facilities for protection of resource or visitor safety may be provided.

SEMI-PRIMITIVE MOTORIZED:

A Semi-Primitive environment in which motorized use is permitted.

SEMI-PRIMITIVE NON-MOTORIZED:

A Semi-Primitive environment in which motorized use is prohibited.

SENSITIVE SPECIES:

(See SPECIAL STATUS SPECIES)

SERPENTINE:

A group of common, green-colored, low silica content rock forming minerals created by the alteration (metamorphism) of magnesium-rich minerals.

SITE CLASS:

A measure of the quality and potential of a locale to produce a volume of merchantable species of timber. The highest potential is assigned to Class I.

SOCIOCULTURAL USE:

A social and/or cultural group use of resources, places, structures, or objects which help maintain the heritage or identity of the group.

SOCIOCULTURAL VALUE:

A belief or perception which is important to a group of people in the maintenance of their identity and ethnic heritage. This term is used in this RMP solely to denote value(s) unique to Native American Indians.

SPECIAL RECREATION MANAGEMENT AREA (SRMA):

Areas requiring explicit recreation management to achieve the Bureau recreation objectives and to provide specific recreation opportunities. Special management areas are identified in the RMP, which also defines the management objectives for the area. BLM recreation investments are concentrated in these areas.

SPECIAL STATUS SPECIES:

(includes the following:)

Proposed Species: are species that have been officially proposed for listing as threatened or endangered by the Secretary of the Interior.

Threatened or Endangered: are those officially listed as threatened or endangered by the Secretary of the Interior under the provisions of the Endangered Species Act.

Candidate Species: are those species designated as Federal candidates (categories 1 and 2) for listing as threatened or endangered by the U.S. Fish and Wildlife Service.

State Listed Species: are those proposed for listing or listed by California in a category (rare or endangered) implying potential endangerment or extinction. Listing is either by legislation or regulation.

Sensitive Species: are those designated by the California State Director of BLM, usually in cooperation with the California Natural Diversity Data Base, as sensitive. They are those species that are: (1) under status review by the U.S. Fish and Wildlife Service; or (2) whose numbers are declining so rapidly that Federal listing may become necessary; or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats.

SUSTAINED YIELD:

The achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of the public land consistent with multiple use. This term is most commonly associated with forest management and the provisions of an undiminished or "even flow" average annual production of wood fiber over decades. It is also applicable to the management of all renewable resources including forage, wildlife, water, recreation, or any value that can be managed for renewal and sustained

productively. It is dependent on the application of multiple use management in a way that assumes the maintenance of the land's productivity.

SPLIT ESTATE:

Partial Federal ownership of a parcel of land where the U.S. Government owns an interest only in the surface or the subsurface of the parcel. Federal mineral reserve estate remaining after entry under the Stock Raising Homestead Entry Act of 1916 is a primary example of split estate.

TEMPORARY CAMP (archaeological):

Archaeological sites apparently occupied for a short length of time and/or by a relatively small group of people. Cultural remains may include any combination of artifacts, stone, tool manufacturing debris, features, fire-affected rock, milling tools and culturally modified soil or midden.

THREATENED SPECIES:

Any species formally recognized by the U.S. Fish and Wildlife Service as likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

TIMBER PRODUCTION CAPABILITY CLASSIFICATION (TPCC):

The process of partitioning forest land into major classes indicating relative suitability to produce timber on a sustained yield basis.

TRESPASS:

The use of public land without proper authority, resulting either from an innocent willful or negligent act.

ULTRAMAFIC:

Igneous rock composed mainly of dark ferr-magnesian minerals, e.g. olivine and augite.

VERNAL POOL:

A shallow depression underlain by an impermeable layer consisting usually of claypan or hardpan, on which winter rainfall accumulates, forming a pool of standing water that remains for several weeks of months into the Spring until it evaporates. These ephemeral pools support a specially adapted flora found neither in true marshes nor in dryland habitats, which include some of California's rarest and most unusual plants.

VILLAGE (archaeological):

An archaeological site containing a wide range of artifacts, refuse, and features representing an apparent long-term or intense seasonal activity of a number of people. Archaeological evidence includes artifacts associated with (a) a wide range of subsistence activities, as well as floral and faunal remains which represent subsistence activities, (b) the manufacture of other artifacts, and (c) ceremonial activities. Such a site is characterized by most or all of the following: extensive scatters and quantities of cultural debris such as fire-affected rock, whole and broken stone tools, chipping waste, milling tools, structural depressions or rings, hearths, and mortuary remains. A well-developed cultural deposit (midden) is an essential constituent of these large sites.

VISITOR DAY:

Unit of measure for recreation use; twelve visitor hours spent on public land by one recreationist.

VISUAL RESOURCE MANAGEMENT (VRM):

The planning, design and implementation of management objectives to provide acceptable levels of visual impacts for all BLM resource management activities. VRM Classes I through III each, describe a different degree of modification allowed in the basis elements of the landscape while retaining the character of the setting(s).

WATERSHED:

A total area of land above a given point on a waterway that contributes runoff water to the flow at that point.

WETLANDS:

Permanently wet or intermittently flooded areas where the water table is at, near, or above the soil surface for extended intervals, where hydric wet soil conditions are normally exhibited, and the water depths are less than 2 meters. Vegetation is generally comprised of water-loving forms (cattails, bulrushes, etc.)

WILD AND SCENIC RIVER CLASSIFICATIONS:

(From Section 2 (b), Public Law 90-542)

Wild River Areas: Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

Scenic River Areas: Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

Recreational River Areas: Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

WILDERNESS AREA:

An area formally designated by Congress as a part of the National Wilderness Preservation System.

WILDERNESS STUDY AREA (WSA):

A parcel of public land that has been found to possess the basic wilderness characteristics identified by Congress in the Wilderness Act of 1964; namely, naturalness, outstanding opportunities for solitude or a primitive and unconfined type of recreation, size of at least 5,000 acres, and the appearance of having been affected primarily by the forces of nature. Supplemental values such as geological, archaeological, historical, ecological or scenic features also may be present.

WITHDRAWAL:

An action that restricts the disposal or use of public land and holds it for specific public purposes; also, public land that has been dedicated to public purposes.

WOODLAND:

Forested land not capable of producing commercial sawtimber, but can and does produce forest products like firewood, transplants, posts and poles, etc.



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 (June 1984)

BORROWER

HD 243 .C2 R422 1991

Draft Redding resource
 management plan & EIS

DATE
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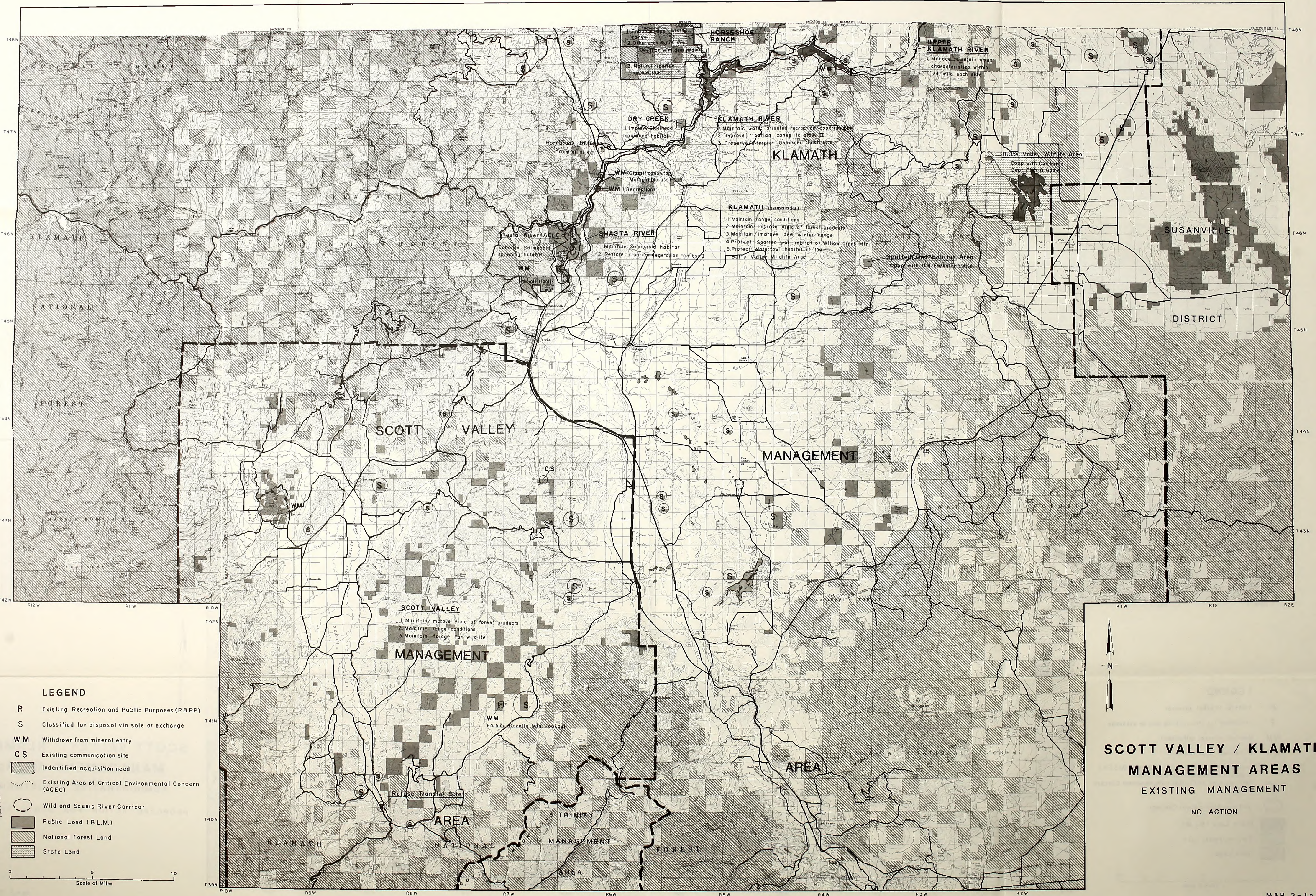
BORROWER

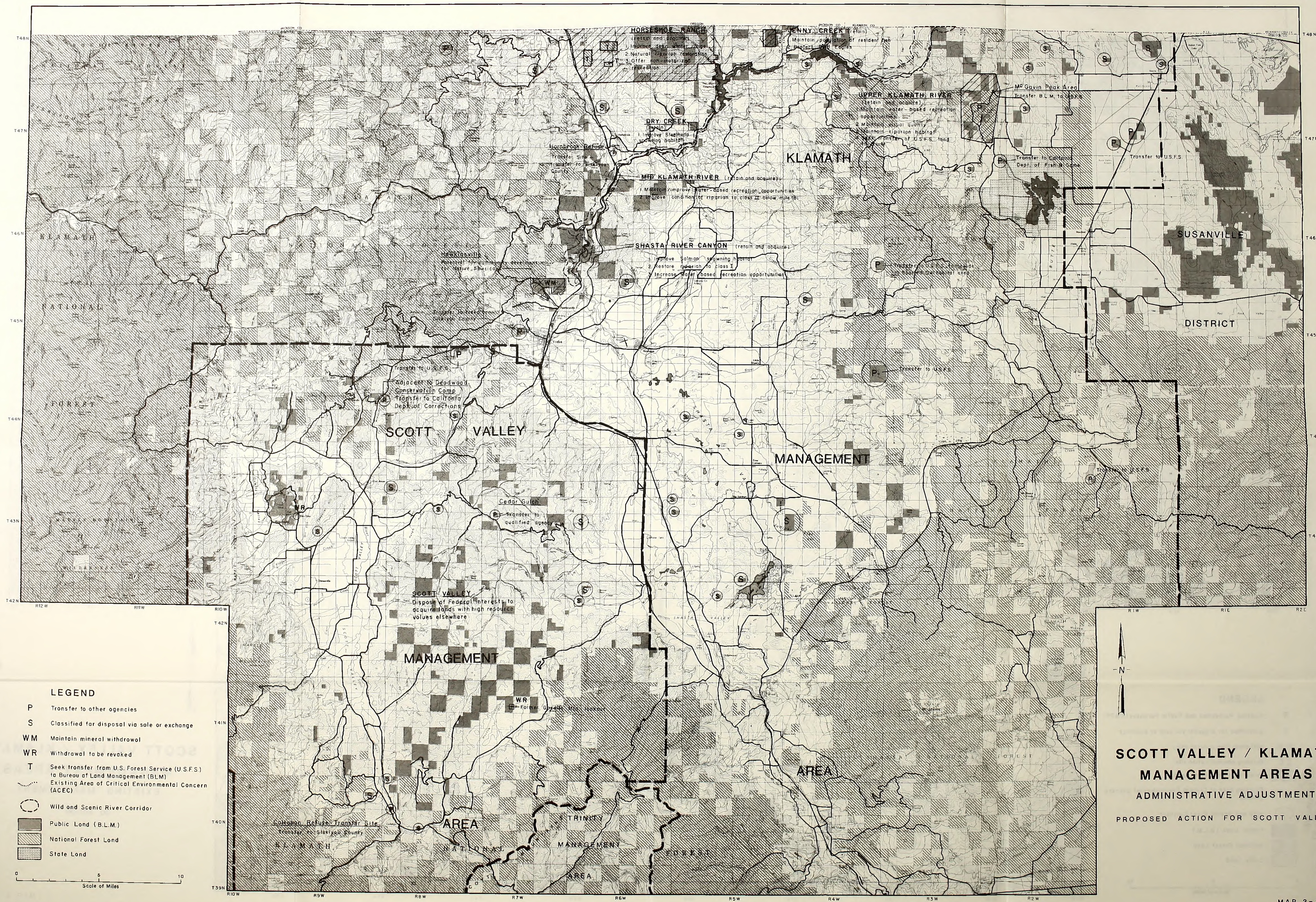
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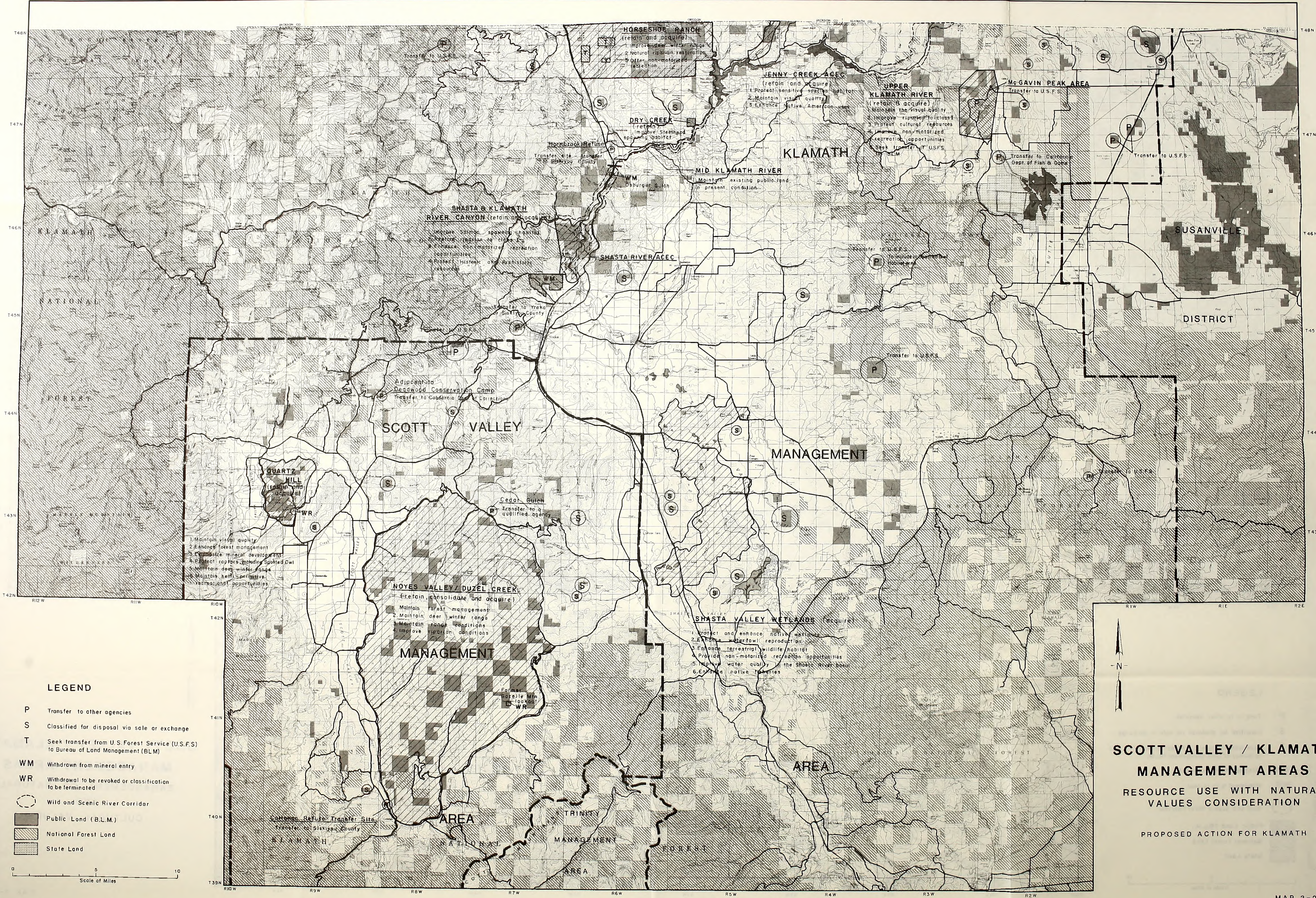


LEGEND

- P Transfer to other agencies
- S Classified for disposal via sale or exchange
- WM Maintain mineral withdrawal
- WR Withdrawal to be revoked
- T Seek transfer from U.S. Forest Service (U.S.F.S.) to Bureau of Land Management (BLM)
- Existing Area of Critical Environmental Concern (ACEC)
- Wild and Scenic River Corridor
- Public Land (B.L.M.)
- National Forest Land
- State Land

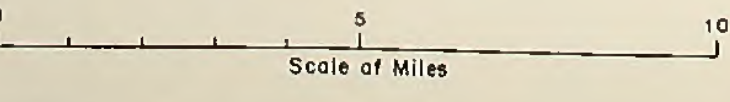
**SCOTT VALLEY / KLAMATH
MANAGEMENT AREAS
ADMINISTRATIVE ADJUSTMENT**

PROPOSED ACTION FOR SCOTT VALLEY



LEGEND

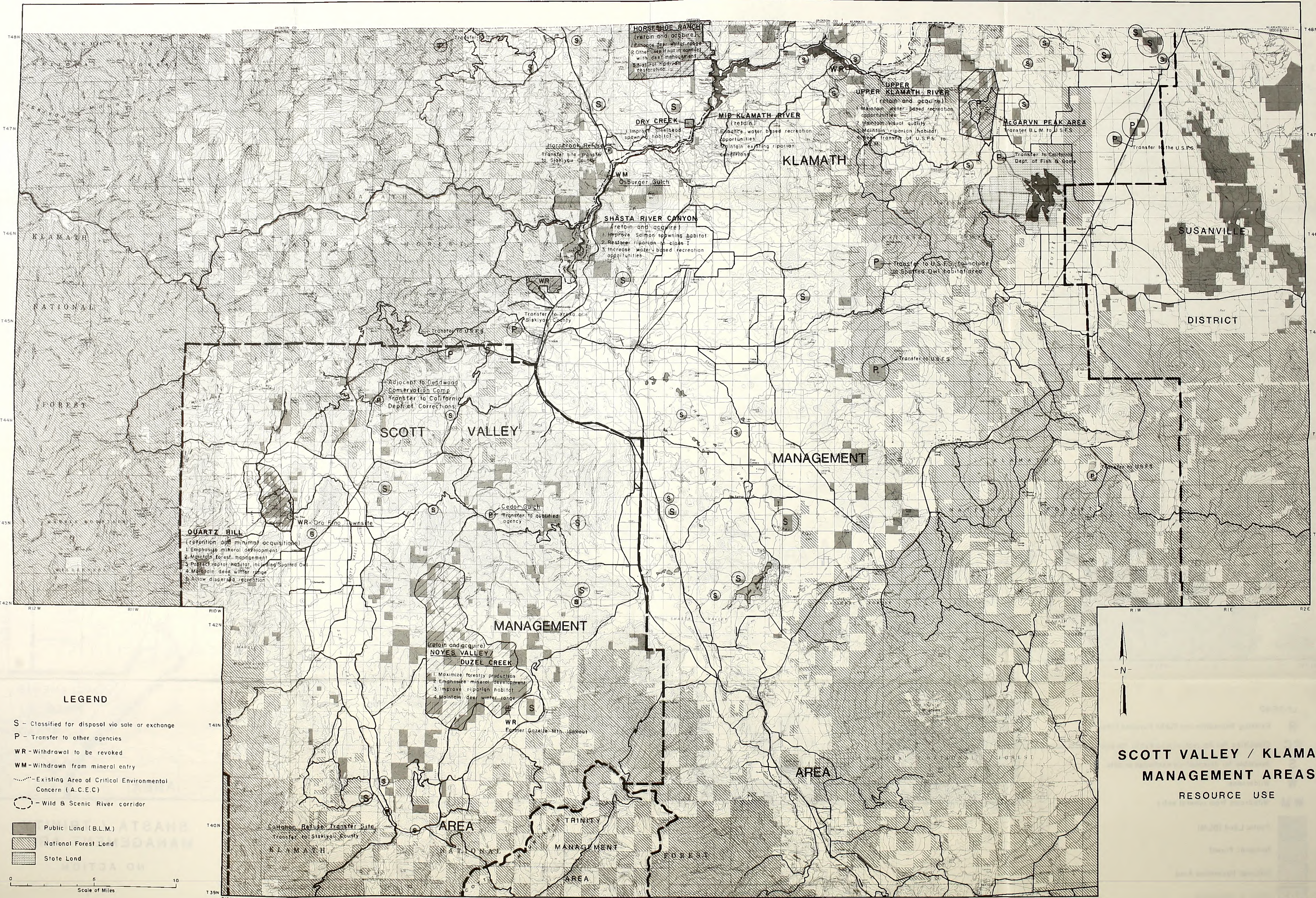
- P Transfer to other agencies
- S Classified for disposal via sale or exchange
- T Seek transfer from U.S. Forest Service (U.S.F.S.) to Bureau of Land Management (BLM)
- WM Withdrawn from mineral entry
- WR Withdrawal to be revoked or classification to be terminated
- Wild and Scenic River Corridor
- Public Land (B.L.M.)
- ▨ National Forest Land
- ▩ State Land



**SCOTT VALLEY / KLAMATH
MANAGEMENT AREAS**

RESOURCE USE WITH NATURAL
VALUES CONSIDERATION

PROPOSED ACTION FOR KLAMATH

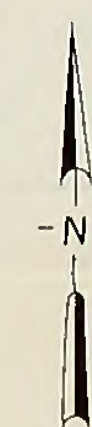


LEGEND

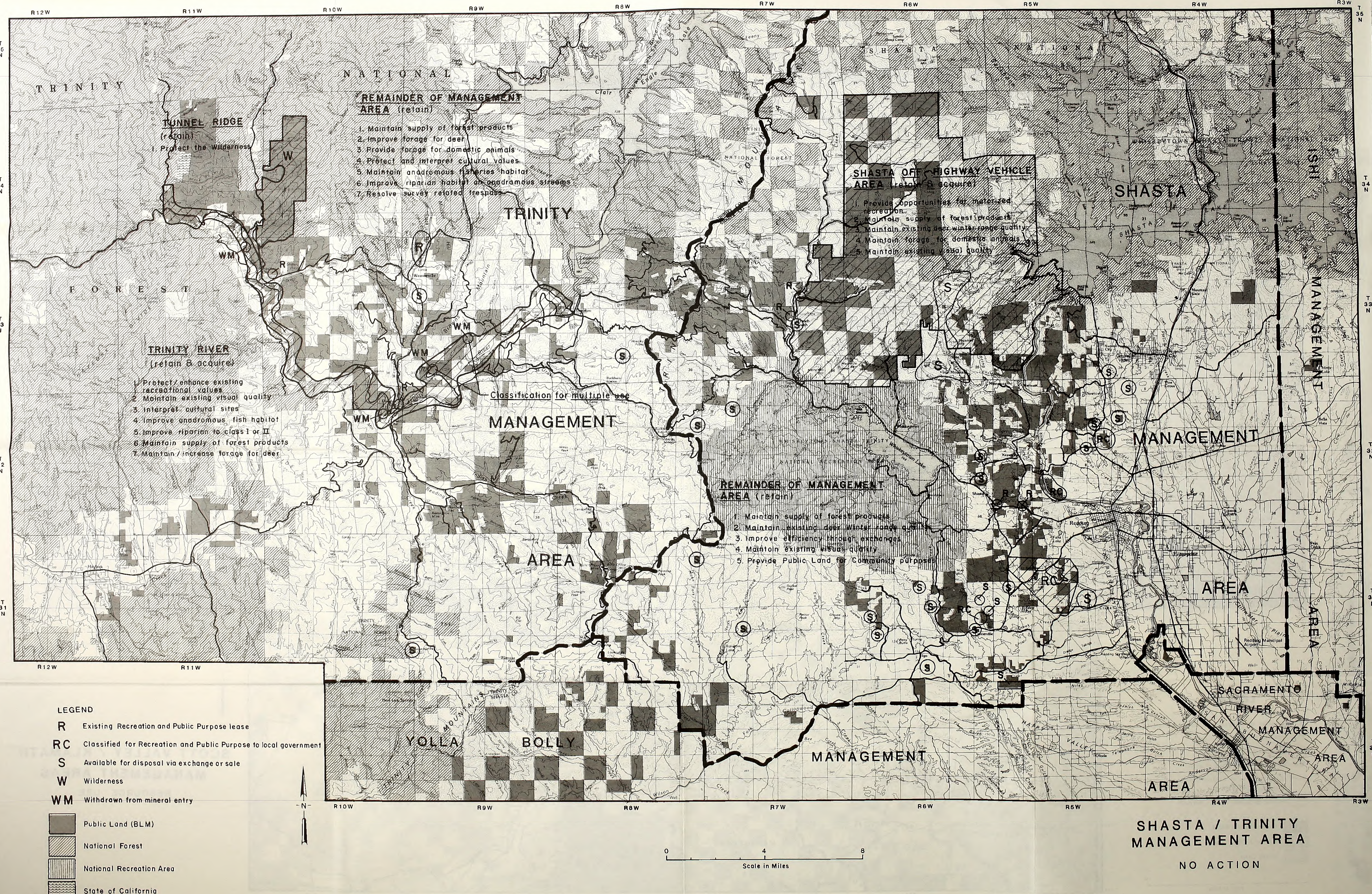
- S - Classified for disposal via sale or exchange
- P - Transfer to other agencies
- WR - Withdrawal to be revoked
- WM - Withdrawn from mineral entry
- Existing Area of Critical Environmental Concern (A.C.E.C.)
- - - Wild & Scenic River corridor

- Public Land (B.L.M.)
- National Forest Land
- State Land

0 5 10
Scale of Miles



**SCOTT VALLEY / KLAMATH
MANAGEMENT AREAS**
RESOURCE USE



TUNNEL RIDGE
(retain)

- 1. Protect the wilderness

TRINITY RIVER
(retain & acquire)

- 1. Protect/enhance existing recreational values
- 2. Maintain existing visual quality
- 3. Interpret cultural sites
- 4. Improve anadromous fish habitat
- 5. Improve riparian to class I or II
- 6. Maintain supply of forest products
- 7. Maintain/increase forage for deer

REMAINDER OF MANAGEMENT AREA (retain)

- 1. Maintain supply of forest products
- 2. Improve forage for deer
- 3. Provide forage for domestic animals
- 4. Protect and interpret cultural values
- 5. Maintain anadromous fisheries habitat
- 6. Improve riparian habitat anadromous streams
- 7. Resolve survey related trespass

SHASTA OFF-HIGHWAY VEHICLE AREA (retain & acquire)

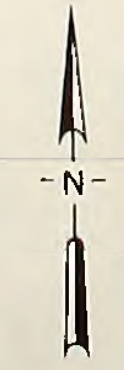
- 1. Provide opportunities for motorized recreation
- 2. Maintain supply of forest products
- 3. Maintain existing deer winter range quality
- 4. Maintain forage for domestic animals
- 5. Maintain existing visual quality

REMAINDER OF MANAGEMENT AREA (retain)

- 1. Maintain supply of forest products
- 2. Maintain existing deer winter range quality
- 3. Improve efficiency through exchanges
- 4. Maintain existing visual quality
- 5. Provide Public Land for Community purposes

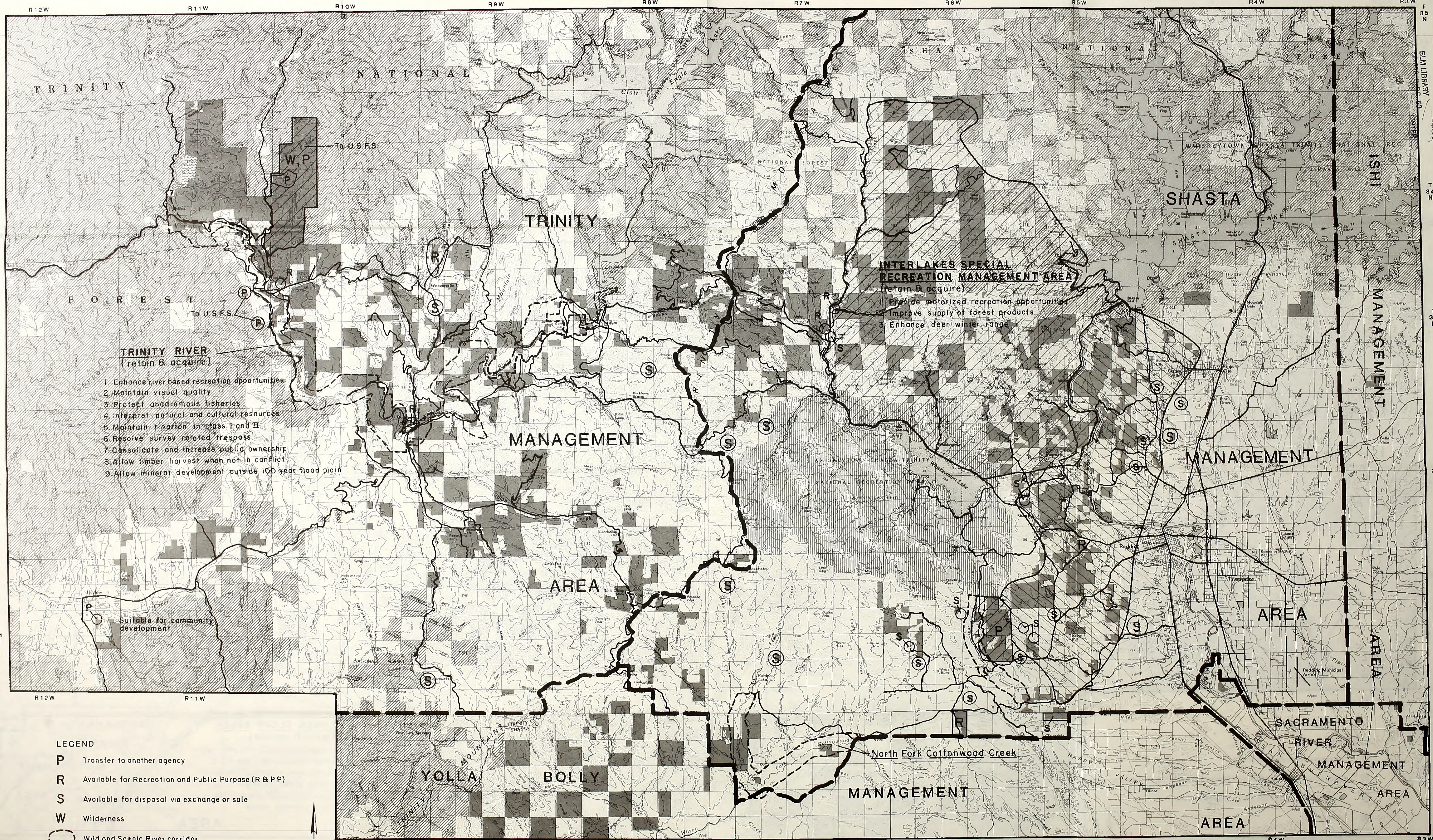
- LEGEND**
- R** Existing Recreation and Public Purpose lease
 - RC** Classified for Recreation and Public Purpose to local government
 - S** Available for disposal via exchange or sale
 - W** Wilderness
 - WM** Withdrawn from mineral entry

- Public Land (BLM)
- National Forest
- National Recreation Area
- State of California



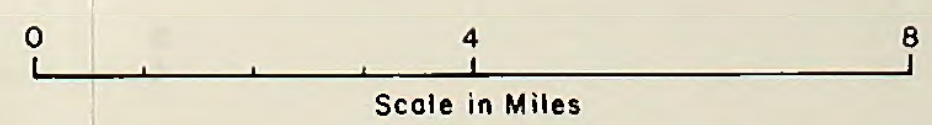
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Scale in Miles

**SHASTA / TRINITY
MANAGEMENT AREA**
NO ACTION

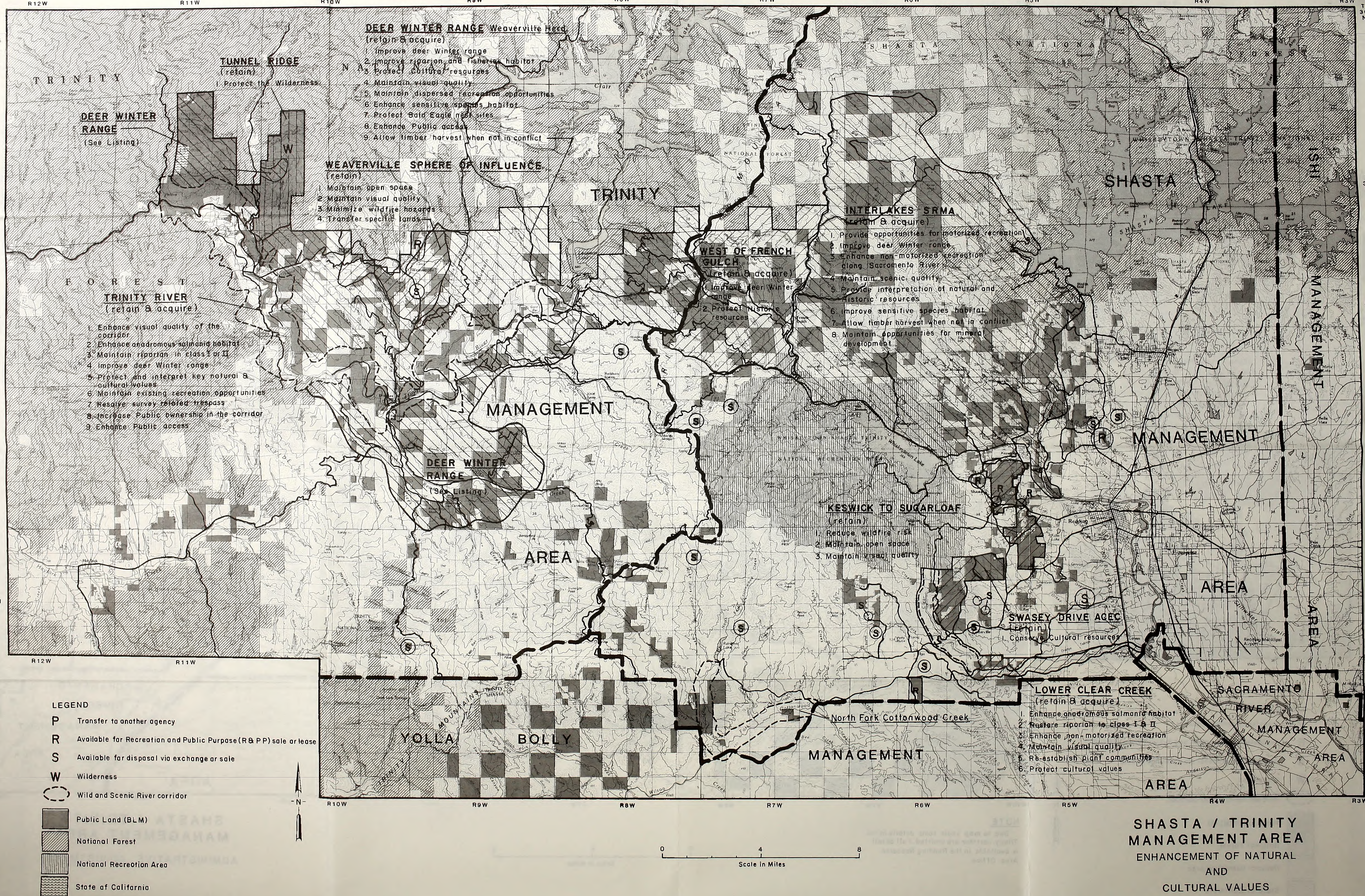


- LEGEND
- P Transfer to another agency
 - R Available for Recreation and Public Purpose (R & P)
 - S Available for disposal via exchange or sale
 - W Wilderness
 - Wild and Scenic River corridor
 - Public Land (BLM)
 - National Forest
 - National Recreation Area
 - State of California

NOTE
Due to map scale some details in the Trinity corridor are omitted. Full detail is available in the Redding Resource Area Office.



**SHASTA / TRINITY
MANAGEMENT AREA**
ADMINISTRATIVE ADJUSTMENT



- DEER WINTER RANGE Weaverville Herd**
(retain & acquire)
1. Improve deer winter range
 2. Improve riparian and fisheries habitat
 3. Protect cultural resources
 4. Maintain visual quality
 5. Maintain dispersed recreation opportunities
 6. Enhance sensitive species habitat
 7. Protect Bald Eagle nest sites
 8. Enhance public access
 9. Allow timber harvest when not in conflict

- WEAVERVILLE SPHERE OF INFLUENCE**
(retain)
1. Maintain open space
 2. Maintain visual quality
 3. Minimize wildfire hazards
 4. Transfer specific lands

DEER WINTER RANGE
(See Listing)

- TUNNEL RIDGE**
(retain)
1. Protect the Wilderness

- TRINITY RIVER**
(retain & acquire)
1. Enhance visual quality of the corridor
 2. Enhance anadromous salmonid habitat
 3. Maintain riparian in class I or II
 4. Improve deer winter range
 5. Protect and interpret key natural & cultural values
 6. Maintain existing recreation opportunities
 7. Resolve survey related trespass
 8. Increase public ownership in the corridor
 9. Enhance public access

- WEST OF FRENCH GULCH**
(retain & acquire)
1. Improve deer winter range
 2. Protect historic resources

- INTERLAKES SRMA**
(retain & acquire)
1. Provide opportunities for motorized recreation
 2. Improve deer winter range
 3. Enhance non-motorized recreation along Sacramento River
 4. Maintain scenic quality
 5. Provide interpretation of natural and historic resources
 6. Improve sensitive species habitat
 7. Allow timber harvest when not in conflict
 8. Maintain opportunities for mineral development

- KESWICK TO SUGARLOAF**
(retain)
1. Reduce wildfire risk
 2. Maintain open space
 3. Maintain visual quality

- SWASEY DRIVE AGEC**
(retain)
1. Conserve cultural resources

- LOWER CLEAR CREEK**
(retain & acquire)
1. Enhance anadromous salmonid habitat
 2. Restore riparian to class I & II
 3. Enhance non-motorized recreation
 4. Maintain visual quality
 5. Re-establish plant communities
 6. Protect cultural values

LEGEND

P Transfer to another agency

R Available for Recreation and Public Purpose (R & PP) sale or lease

S Available for disposal via exchange or sale

W Wilderness

○ Wild and Scenic River corridor

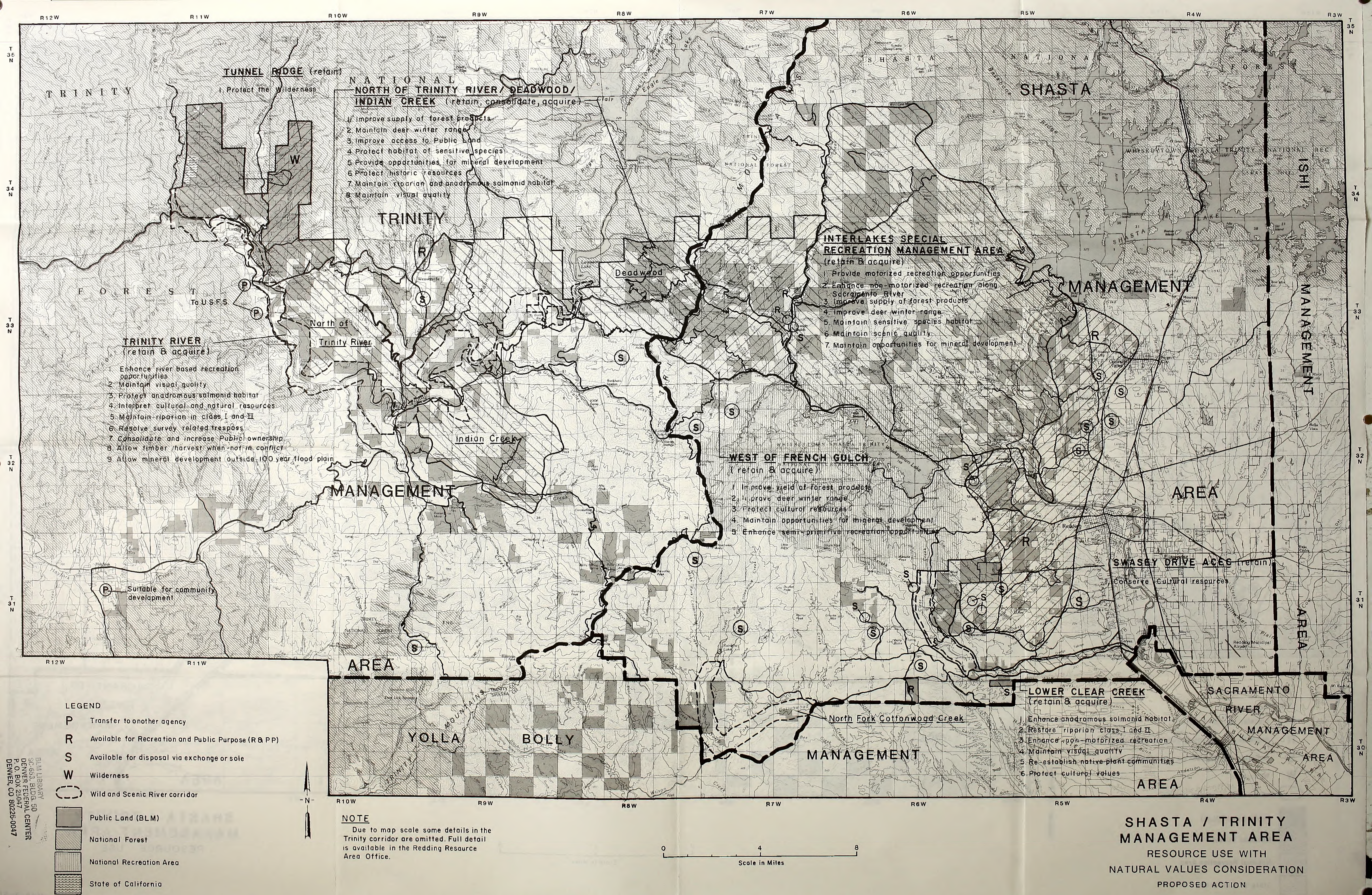
■ Public Land (BLM)

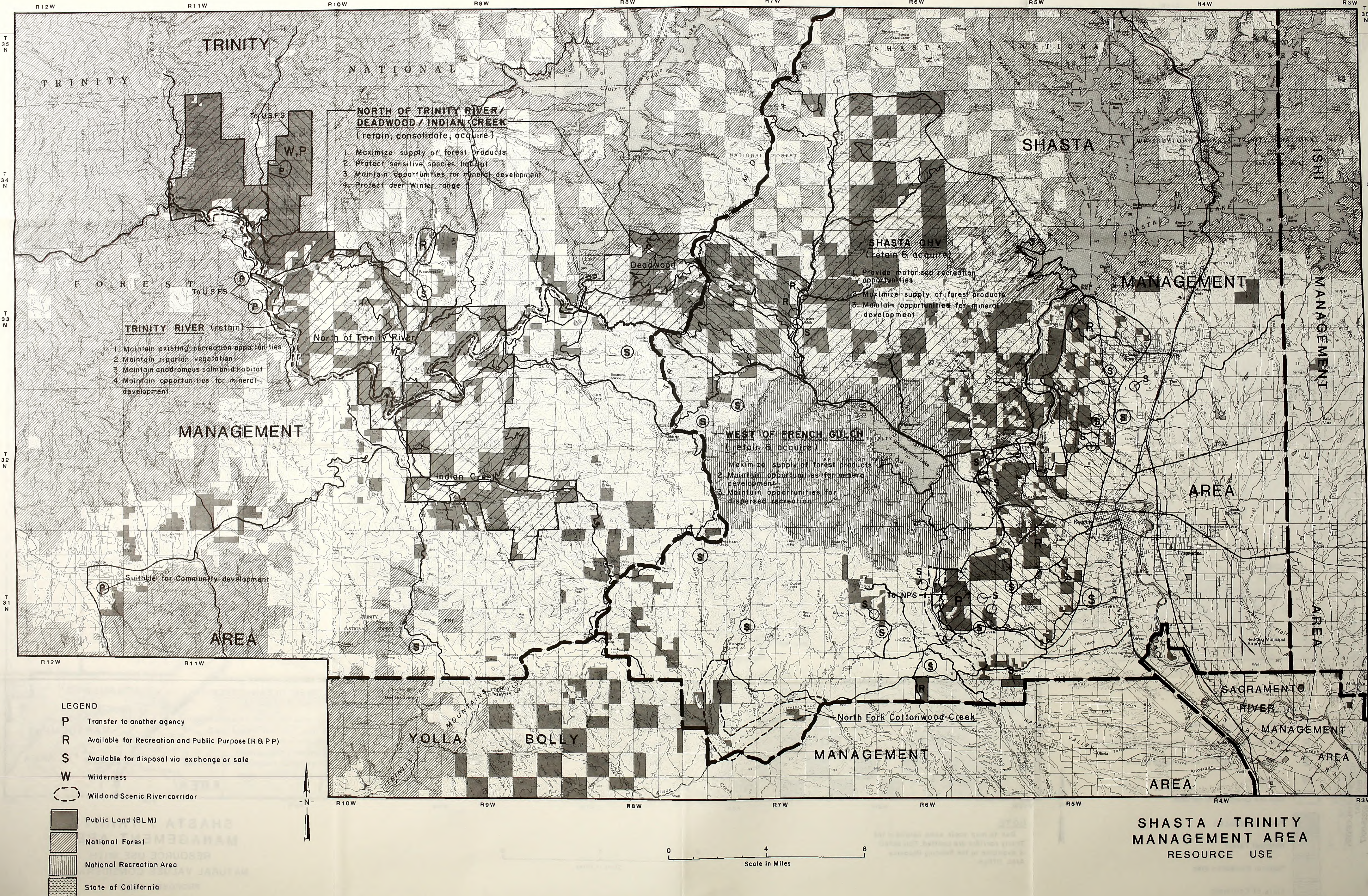
▨ National Forest

▤ National Recreation Area

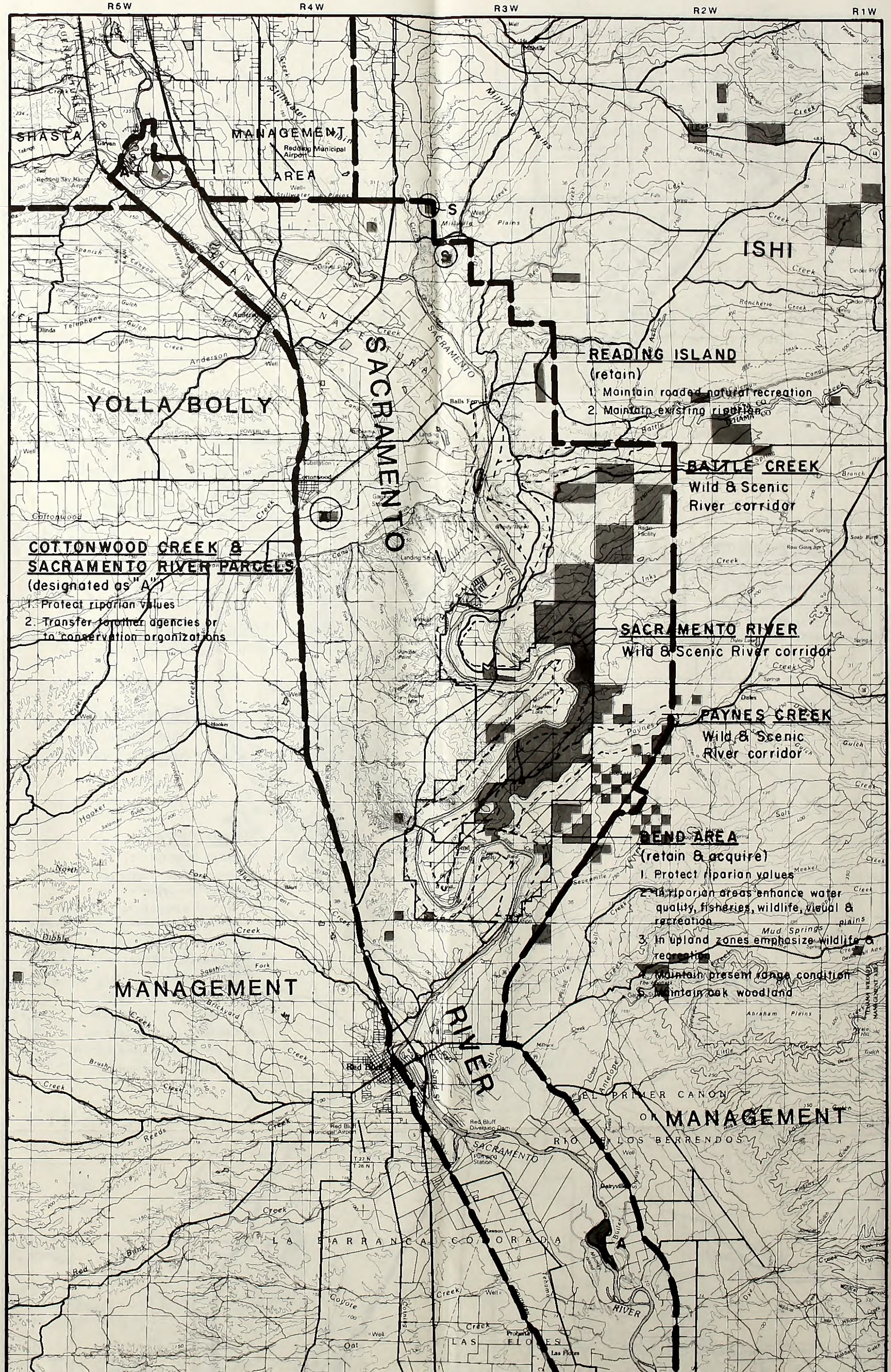
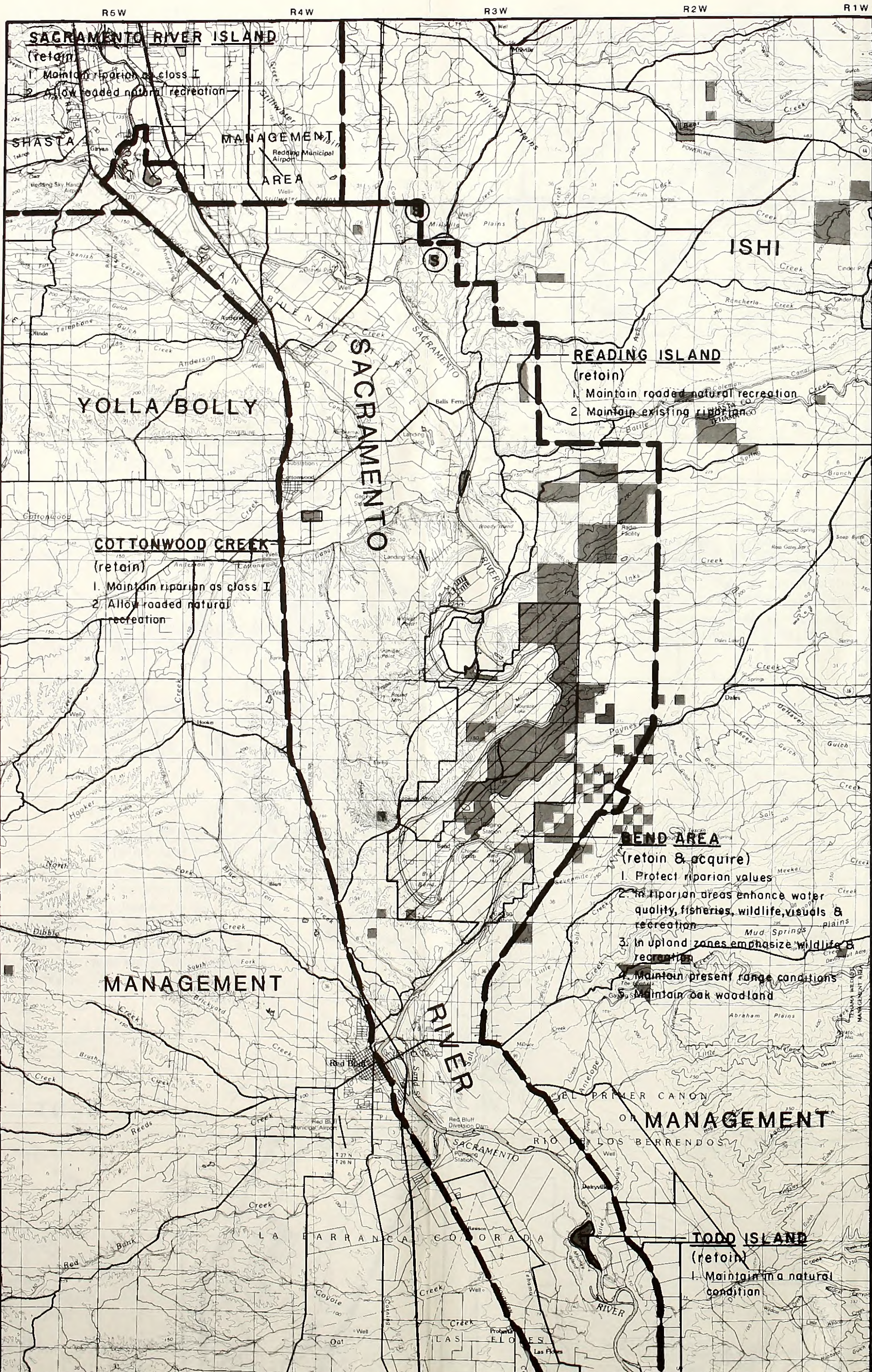
▧ State of California

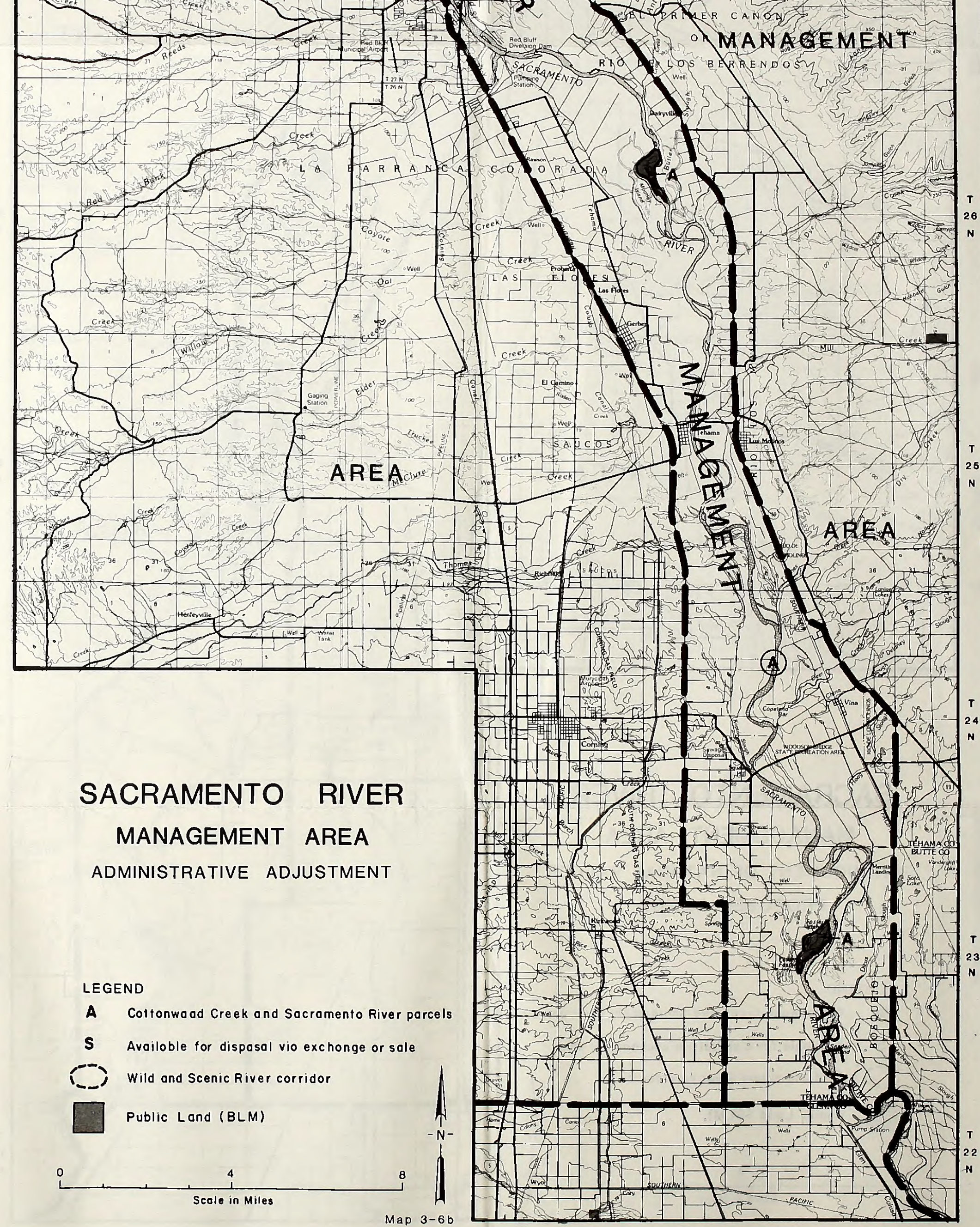
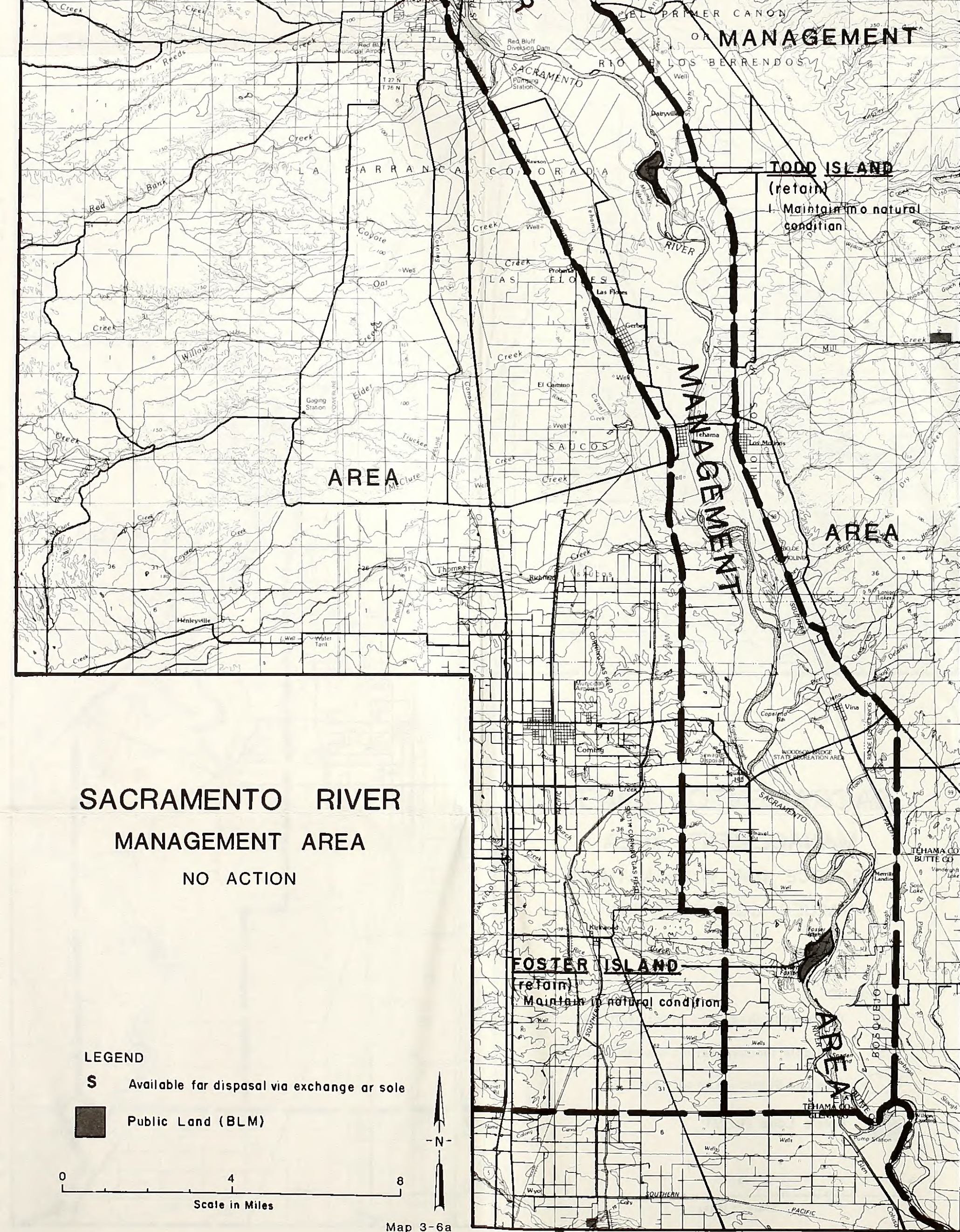
SHASTA / TRINITY MANAGEMENT AREA
ENHANCEMENT OF NATURAL AND CULTURAL VALUES



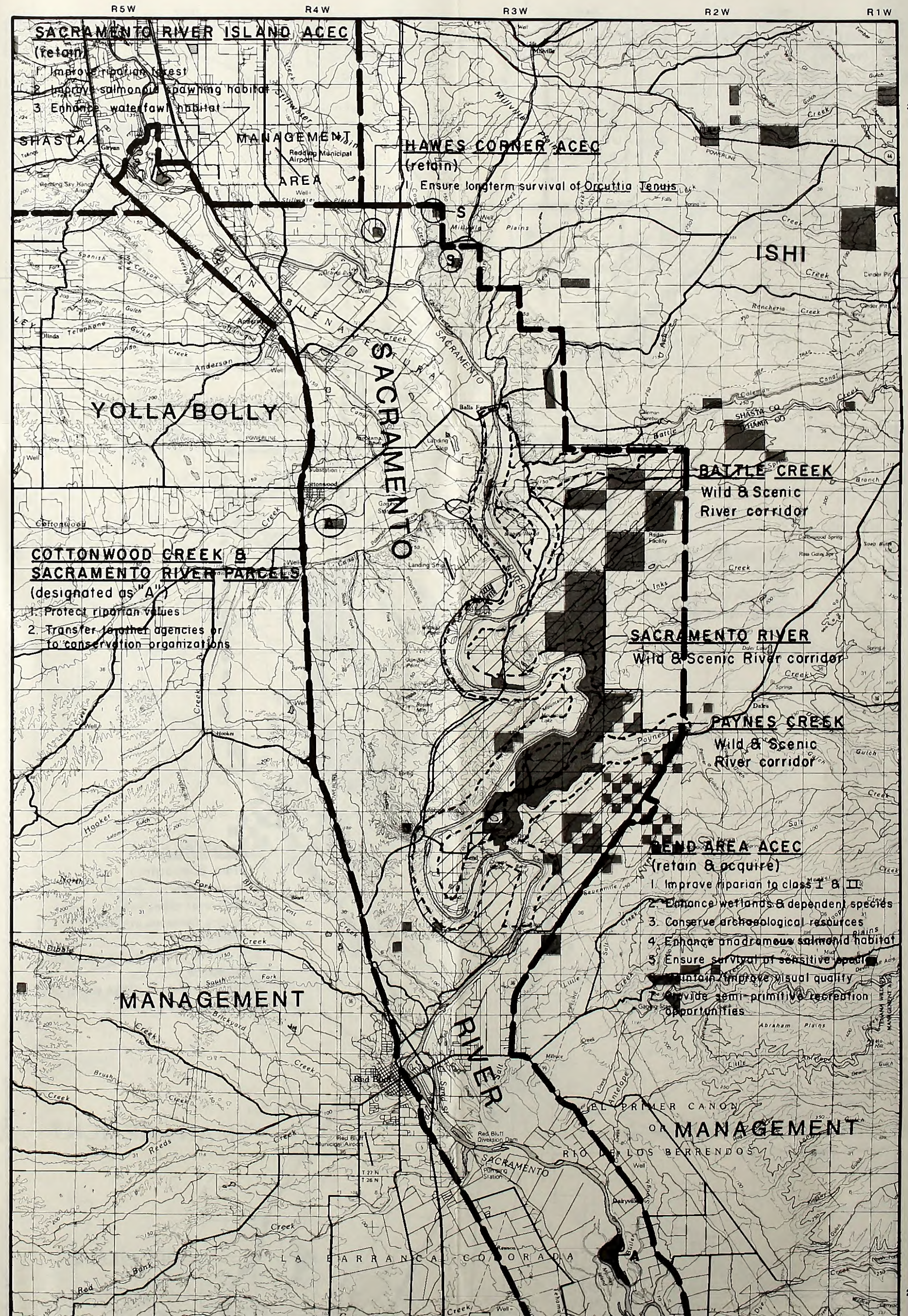
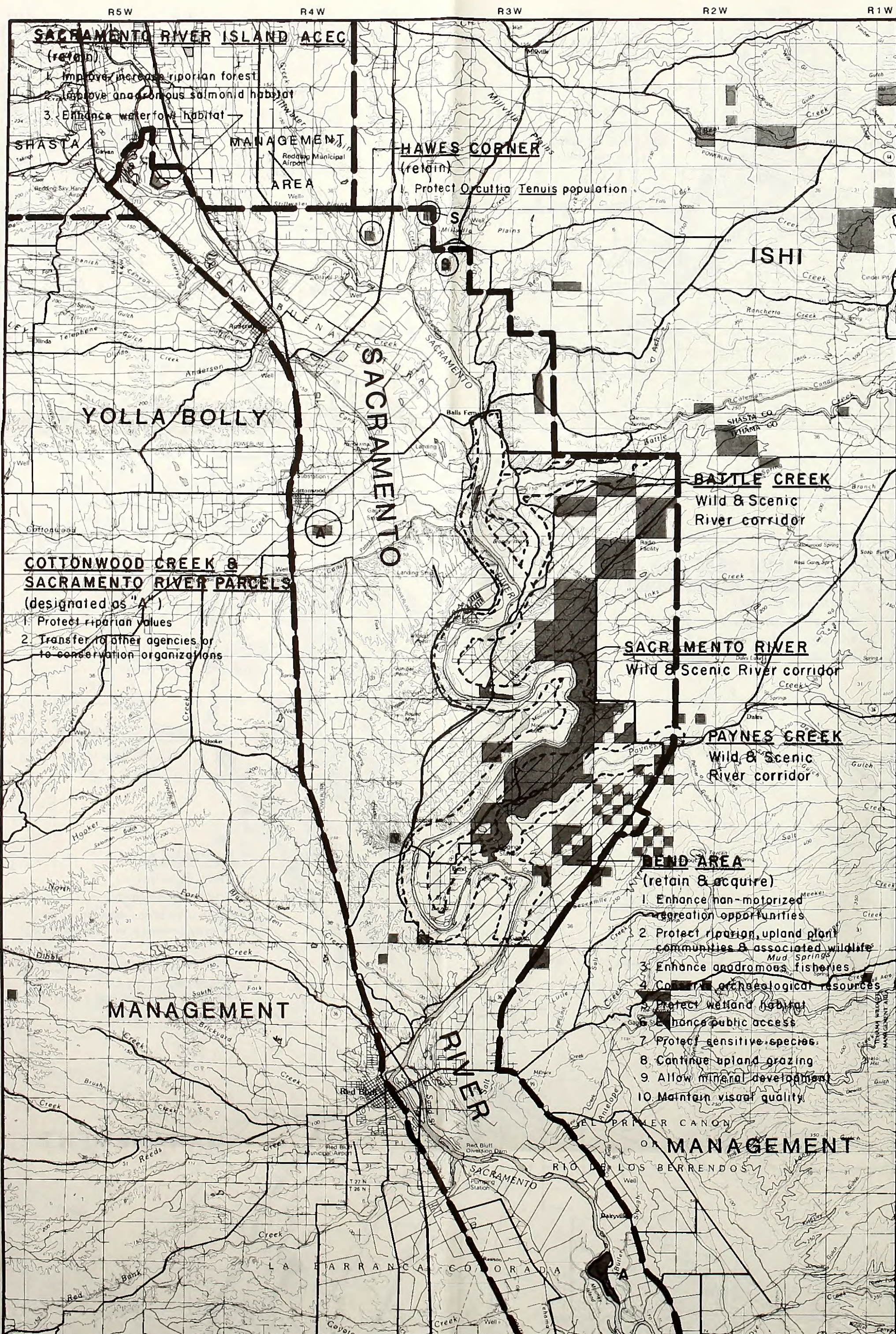


SHASTA / TRINITY
MANAGEMENT AREA
RESOURCE USE

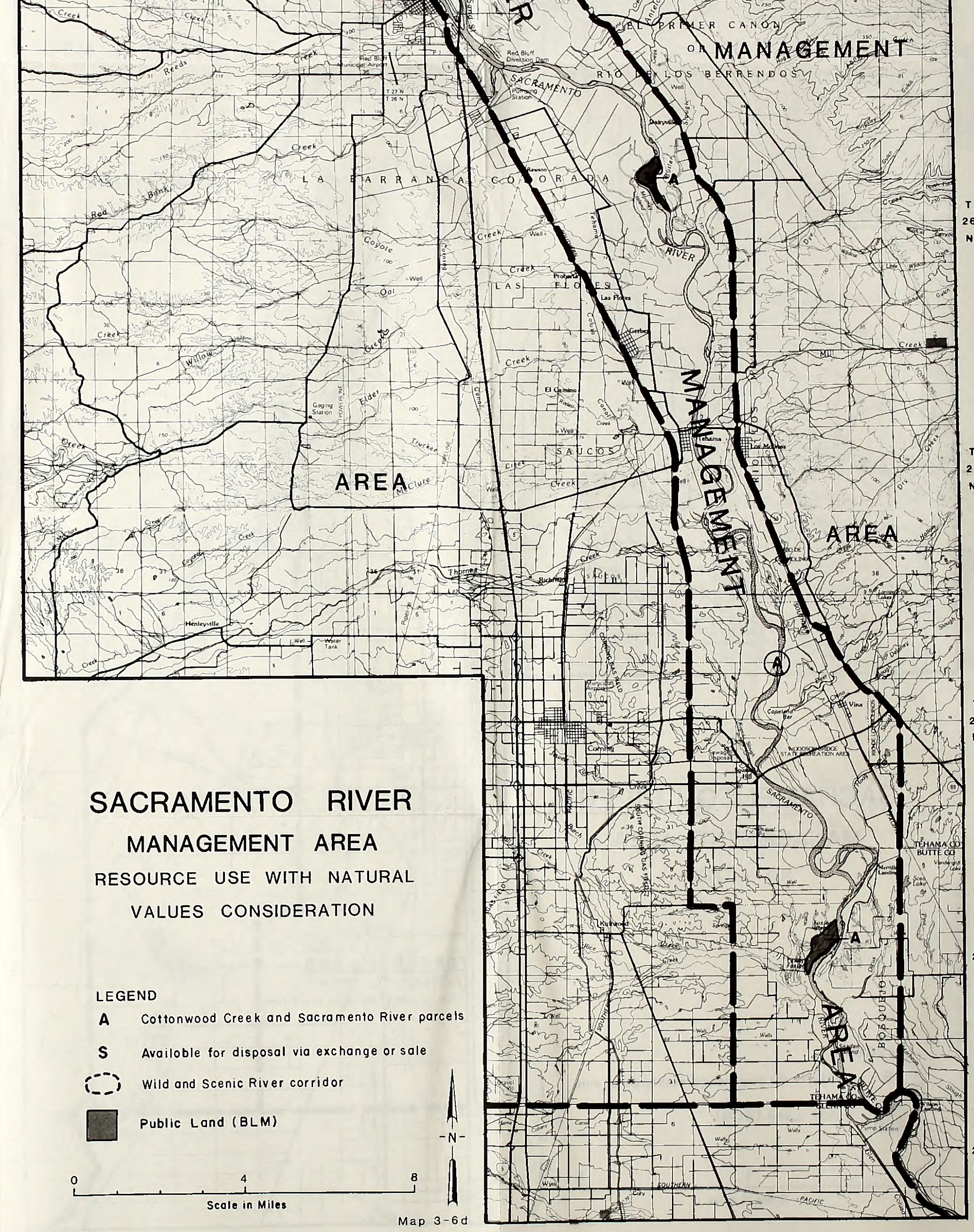
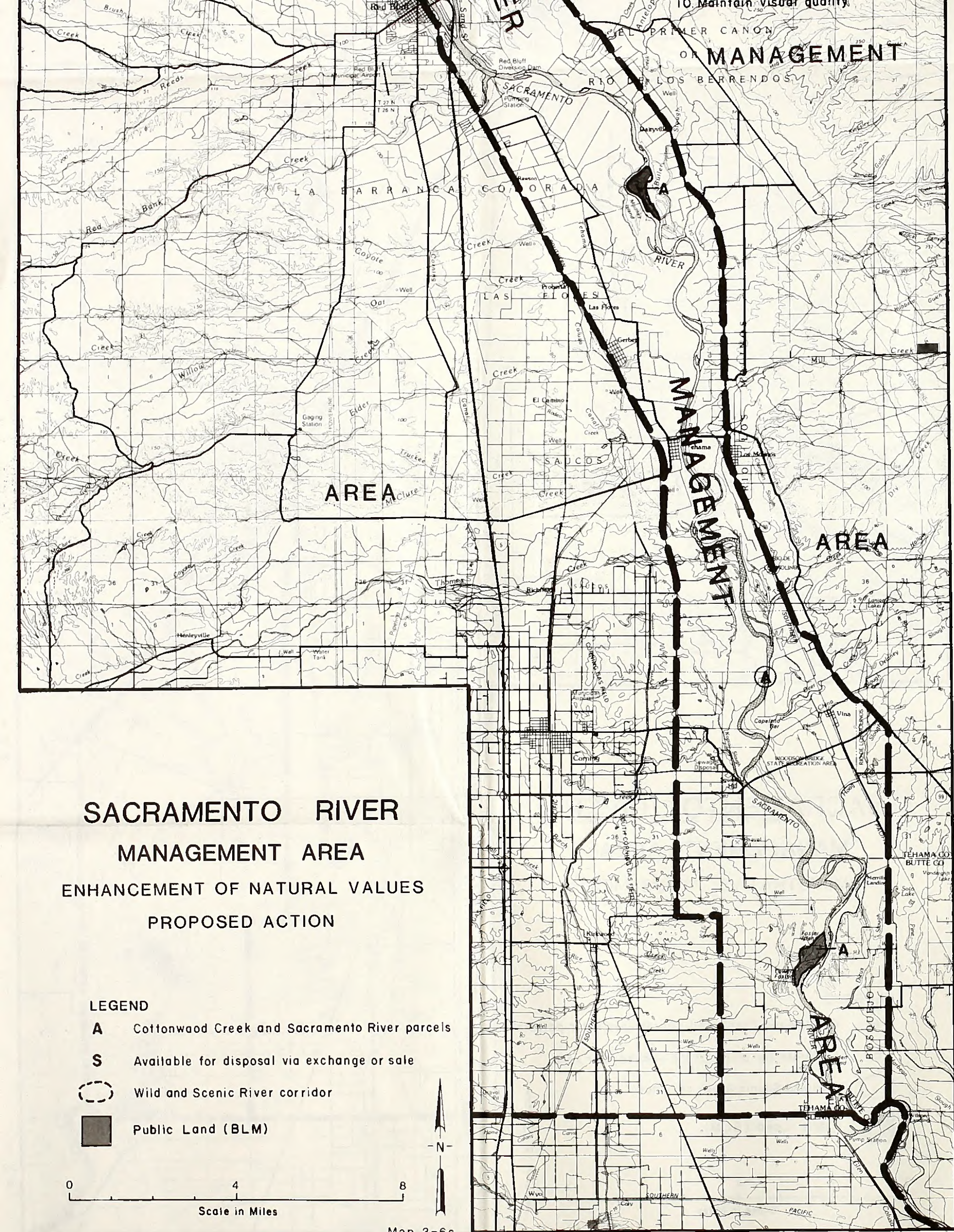


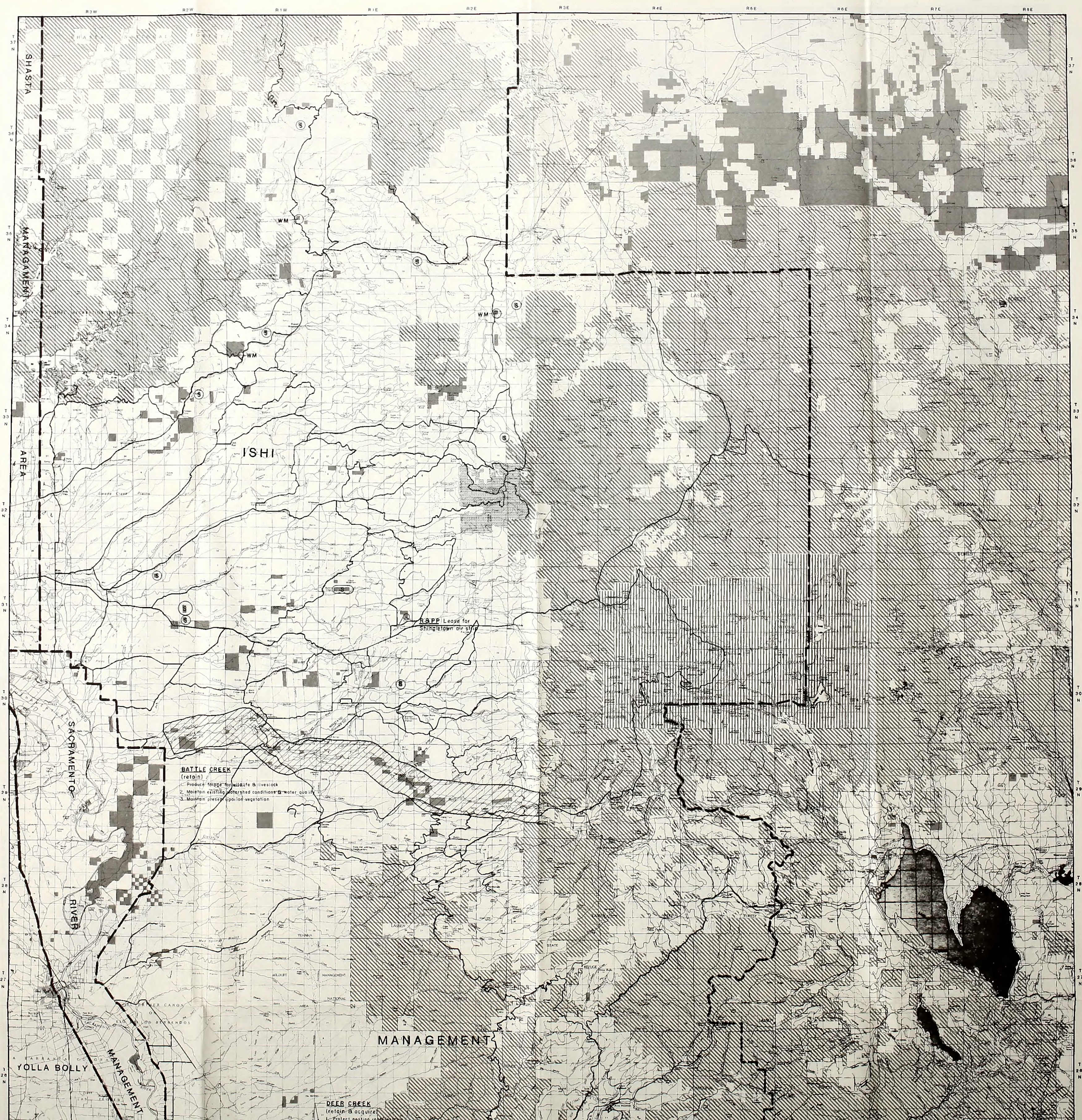


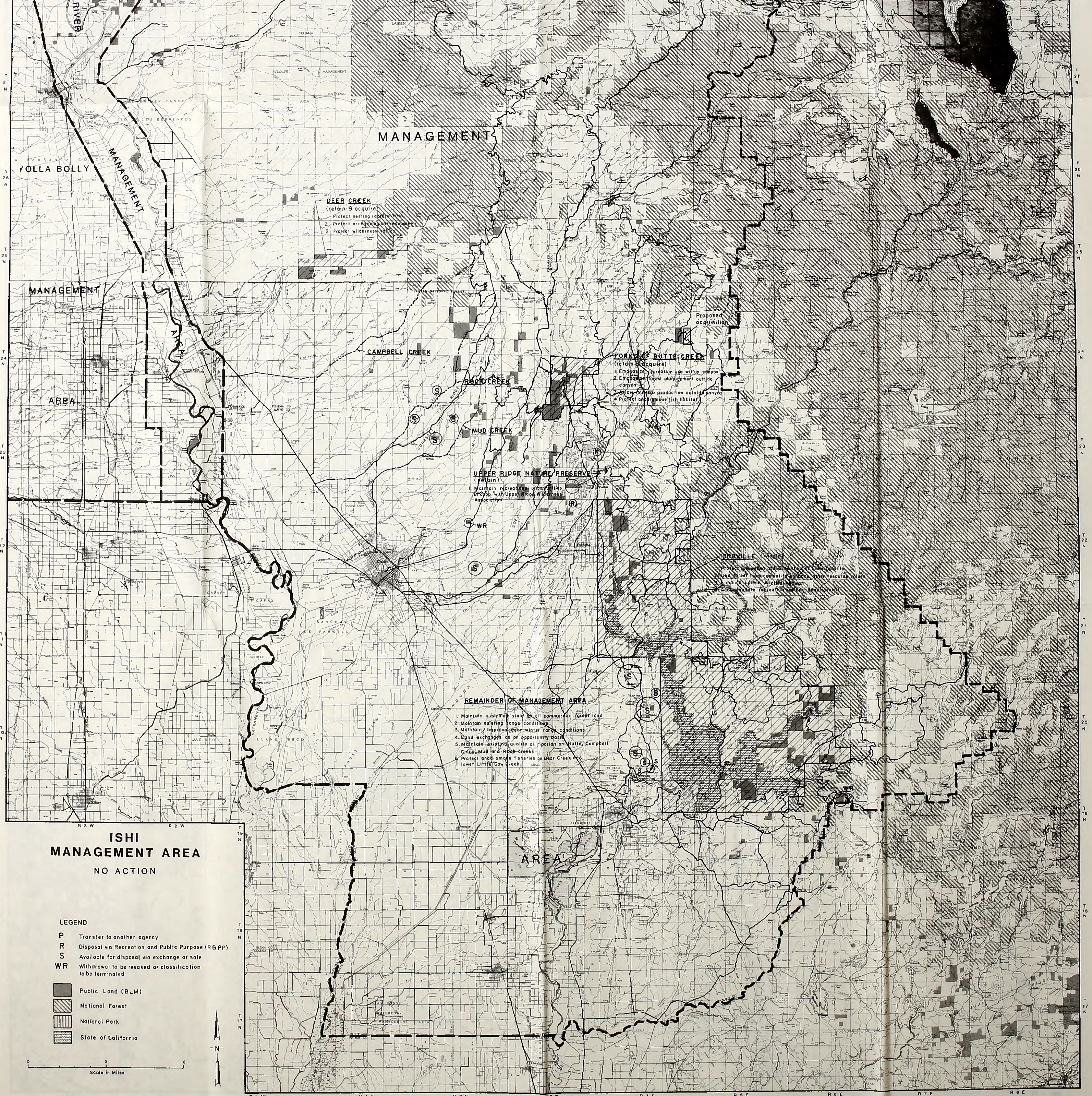
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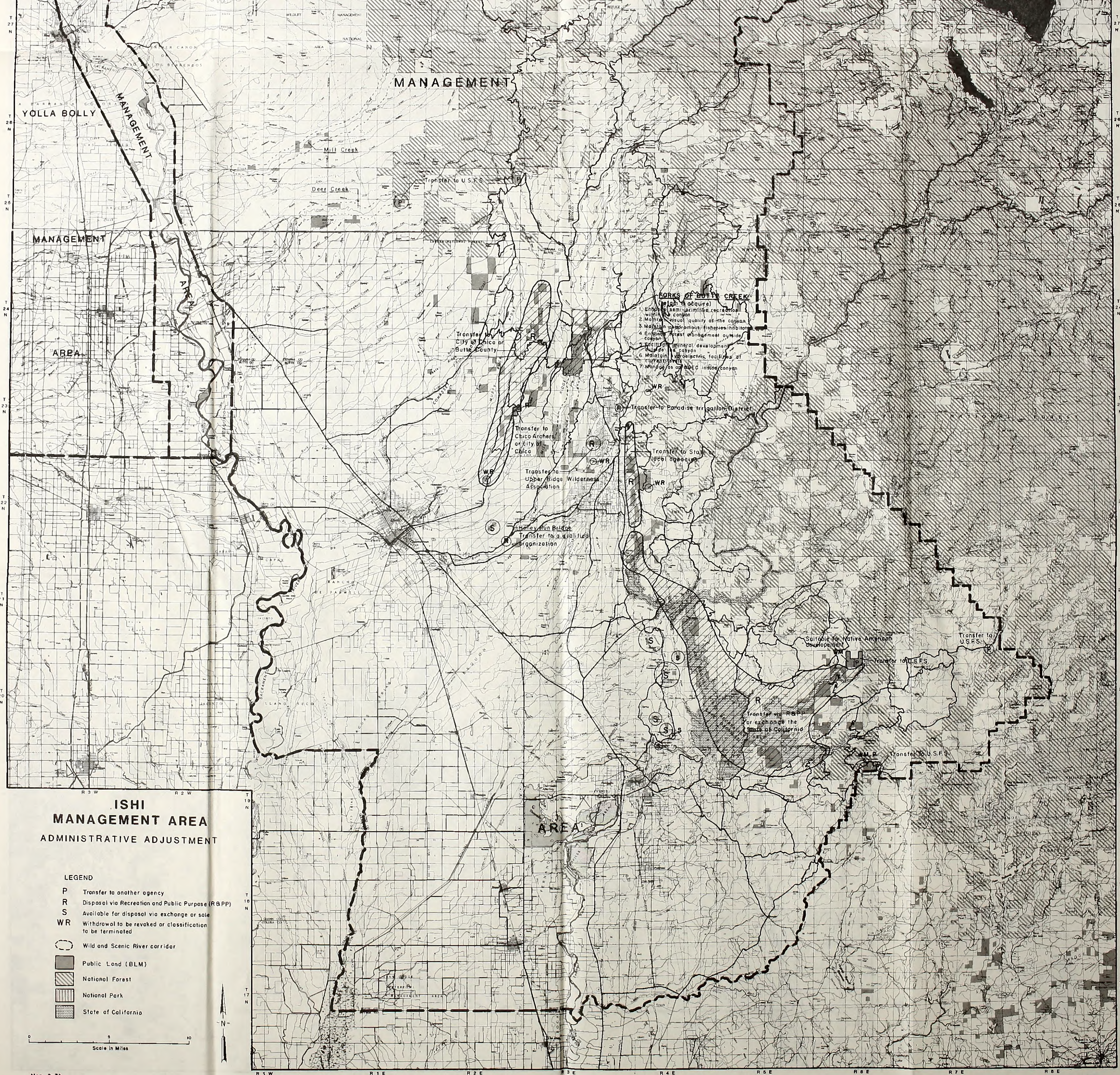
10. Maintain visual quality

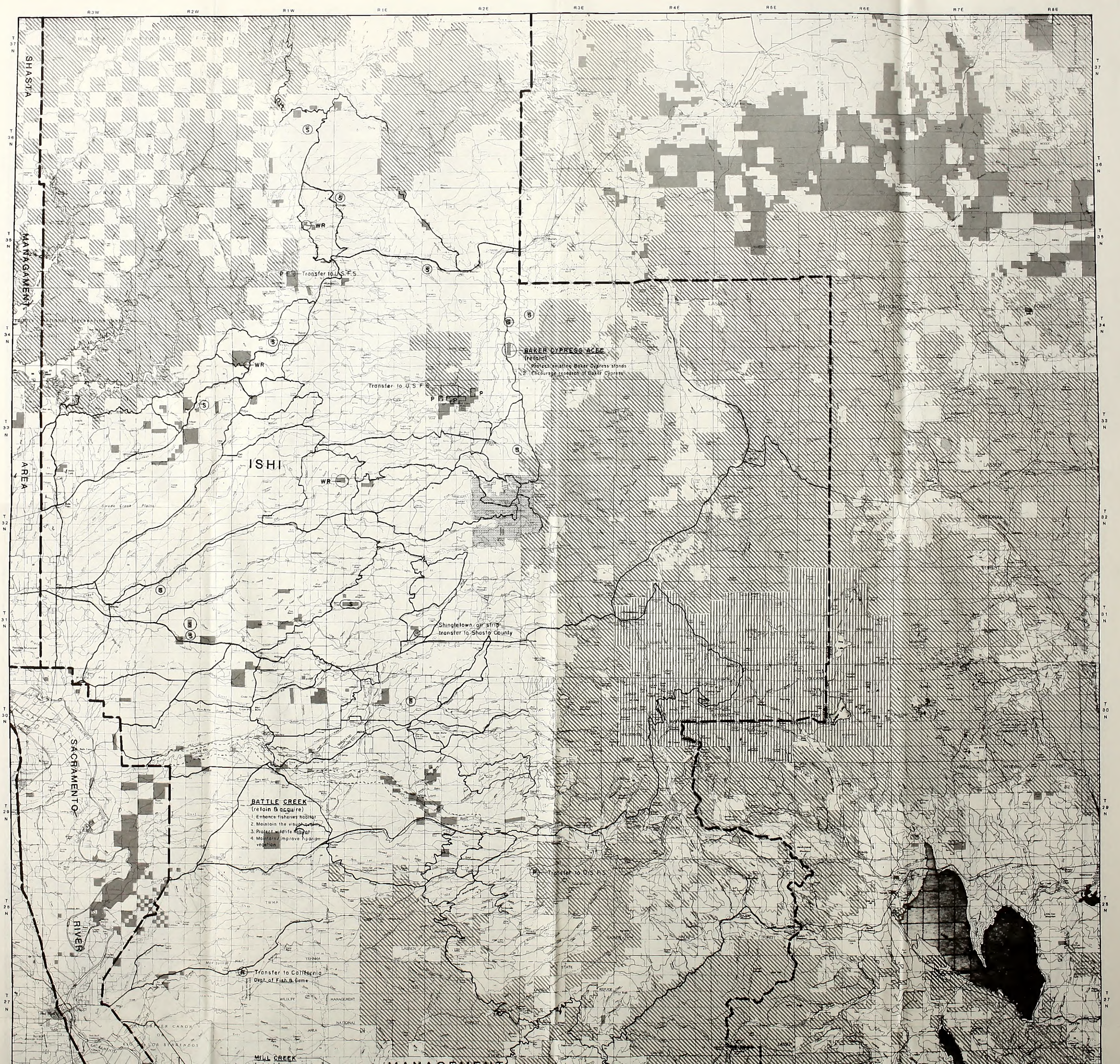


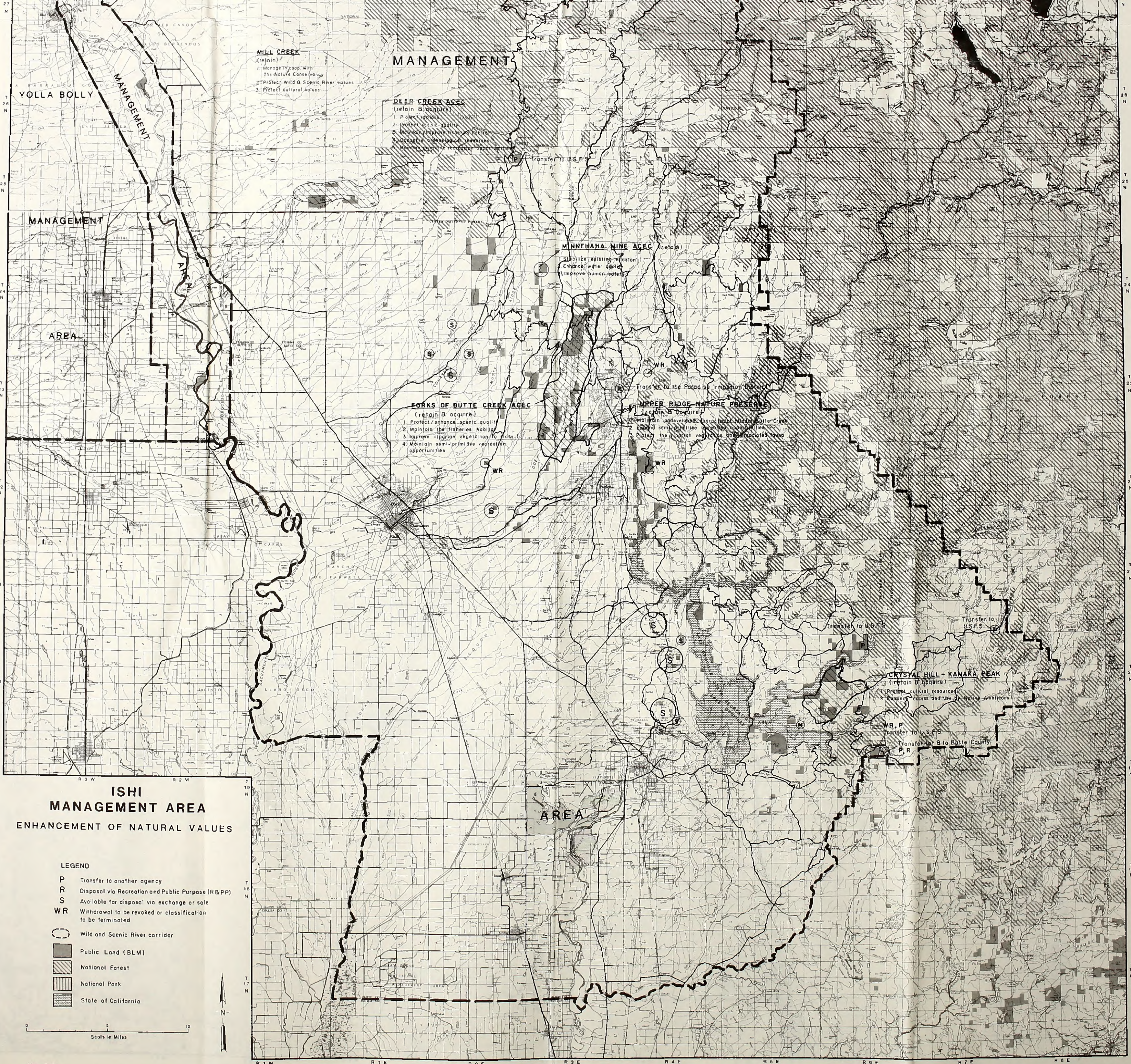












MILL CREEK
(retain)
1. Manage in coop. with
The Aquatic Conservancy
2. Protect Wild & Scenic River values
3. Protect cultural values

MANAGEMENT

DEER CREEK ACEC
(retain B acquire)
1. Protect riparian habitat
2. Protect scenic quality
3. Maintain riparian forest on floodplain
4. Manage riparian resources
5. Maintain scientific research opportunities

Transfer to U.S.F.S.

MINNEHAHA MINE ACEC (retain)
1. Stabilize existing erosion
2. Enhance water quality
3. Improve human safety

Transfer to the Paradise Irrigation District

FORKS OF BUTTE CREEK ACEC
(retain B acquire)
1. Protect/enhance scenic quality
2. Maintain the fisheries habitat
3. Improve riparian vegetation to class 1
4. Maintain semi-primitive recreation opportunities

UPPER RIDGE NATURE PRESERVE
(retain B acquire)
1. Maintain undeveloped character of Upper Ridge Creek
2. Enhance semi-primitive recreation opportunities
3. Protect the riparian vegetation and associated fauna

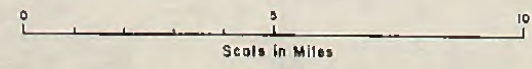
CRYSTAL HILL-KANAKA PEAK
(retain B acquire)
1. Protect cultural resources
2. Enhance access and use of Native Americans

Transfer to U.S.F.S.
Transfer to B to Butte County
P, R

ISHI MANAGEMENT AREA ENHANCEMENT OF NATURAL VALUES

LEGEND

- P Transfer to another agency
- R Disposal via Recreation and Public Purpose (R&PP)
- S Available for disposal via exchange or sale
- WR Withdrawal to be revoked or classification to be terminated
- Wild and Scenic River corridor
- Public Land (BLM)
- ▨ National Forest
- ▤ National Park
- ▧ State of California





SHASTA

MANAGEMENT

AREA

SACRAMENTO RIVER

YOLLA BOLLY

ISHI

WR

WR

**BATTLE CREEK -
BELOW MANTON ROAD**
(retain & acquire)
1. Improve semi-primitive recreation
2. Enhance and/or improve salmonid habitat
3. Maintain/improve riparian vegetation

**BATTLE CREEK -
ABOVE MANTON ROAD**

MILL CREEK
(retain)
Manage in coop. with
the National Conservancy
the National Conservancy

MANAGEMENT

BAKER CYPRESS ACED
(retain)
1. Protect existing Baker Cypress stands
2. Encourage research of Baker Cypress

Transfer to U.S.F.S.

Transfer to U.S.F.S.

Shingletown air strip
Transfer to Shasta County

Transfer to U.S.F.S.

Transfer to California
Dept. of Fish & Game



MILL CREEK
(retain)
1. Manage in coop. with
the Nature Conservancy
2. Protect wild & scenic river values
3. Protect cultural values

DEER CREEK ACEC
(retain & acquire)
1. Protect riparian habitat
2. Protect scenic quality
3. Maintain/improve fisheries habitat
4. Conserve archeological resources
5. Maintain primitive/recreational opportunities

MINNEHAHA ACEC (retain)
1. Stabilize existing erosion
2. Enhance water quality
3. Improve human safety

FORKS OF BUTTE CREEK ACEC
(retain & acquire)
1. Enhance scenic quality
2. Maintain/improve habitat
3. Improve riparian habitat
4. Maintain primitive/recreational opportunities

UPPER RIDGE NATURE PRESERVE (retain)
1. Maintain existing recreation opportunities

Honey Run Bridge
Transfer to a qualified organization

Suitable for
Native American
development

Transfer to U.S.F.S.

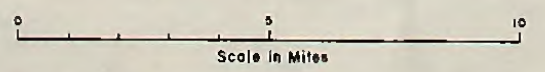
Transfer via R&PP
for exchange the
State of California

Transfer to U.S.F.S.

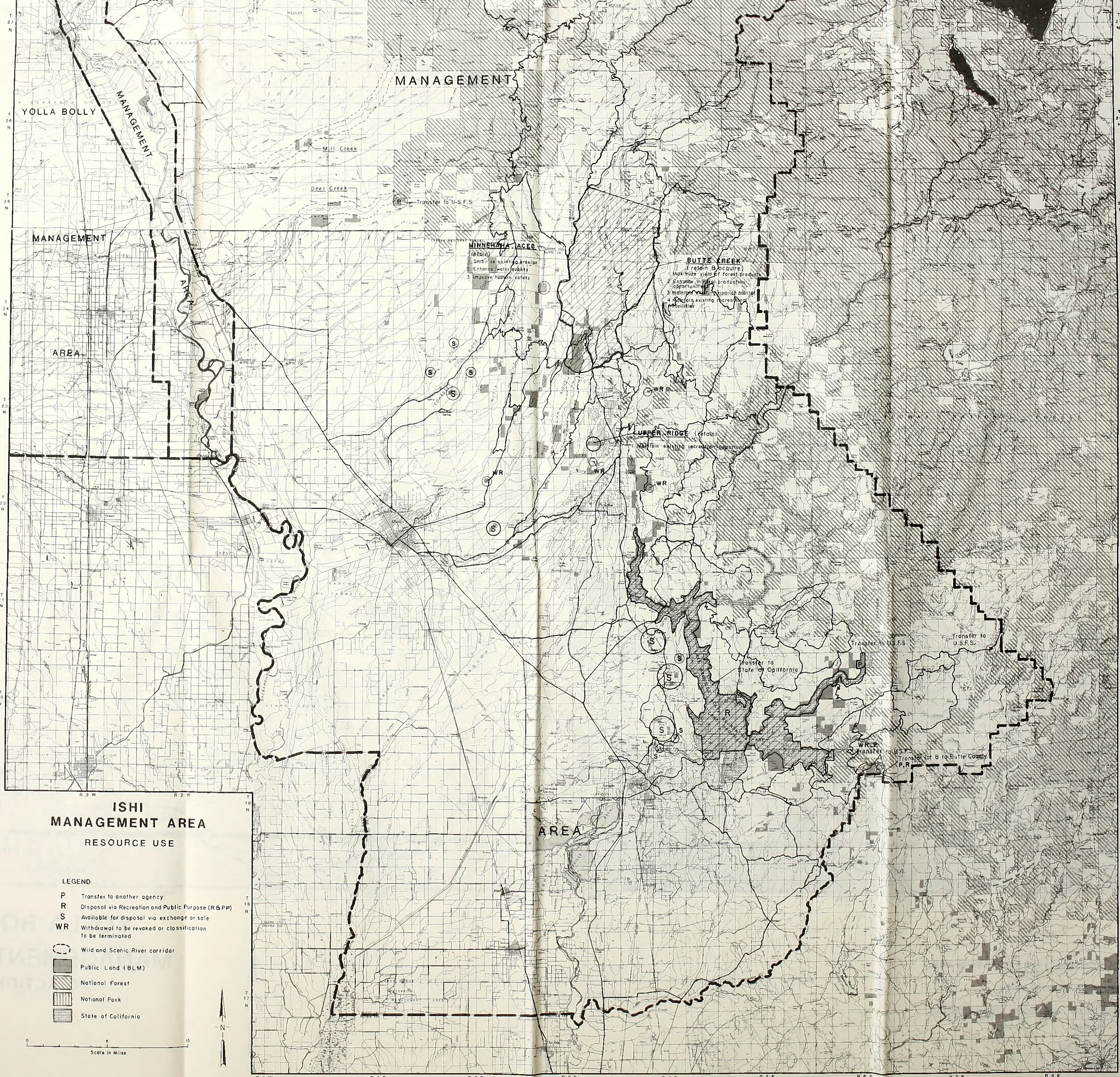
Transfer to B to Butte County
P.R.

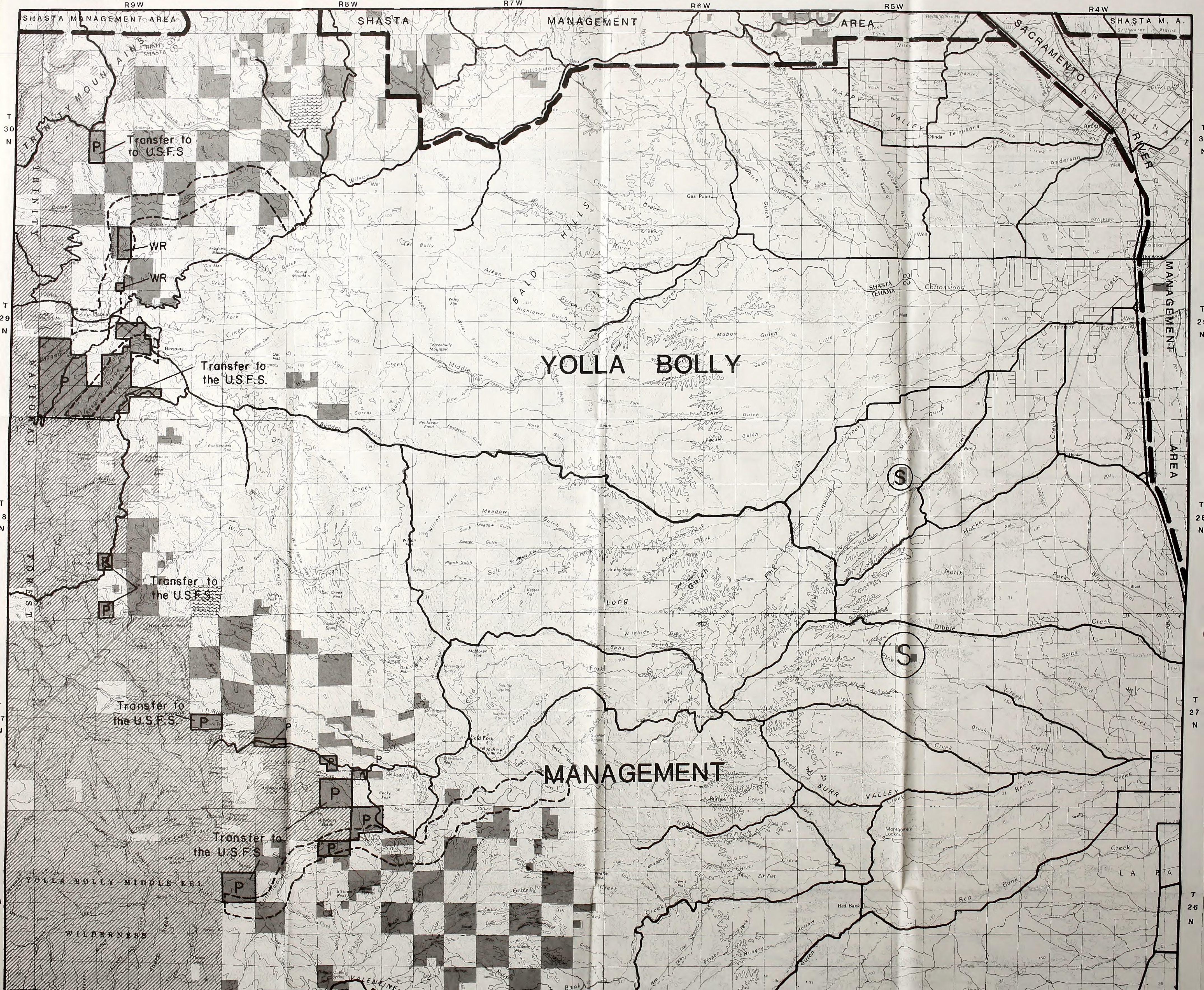
**ISHI
MANAGEMENT AREA**
RESOURCE USE WITH NATURAL
VALUES CONSIDERATION
PROPOSED ACTION

- LEGEND**
- P Transfer to another agency
 - R Disposal via Recreation and Public Purpose (R&PP)
 - S Available for disposal via exchange or sale
 - WR Withdrawal to be revoked or classification to be terminated
 - Wild and Scenic River corridor
 - Public Land (BLM)
 - National Forest
 - National Park
 - State of California









Transfer to
to U.S.F.S.

WR

WR

Transfer to
the U.S.F.S.

YOLLA BOLLY

Transfer to
the U.S.F.S.

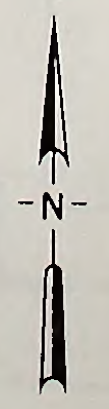
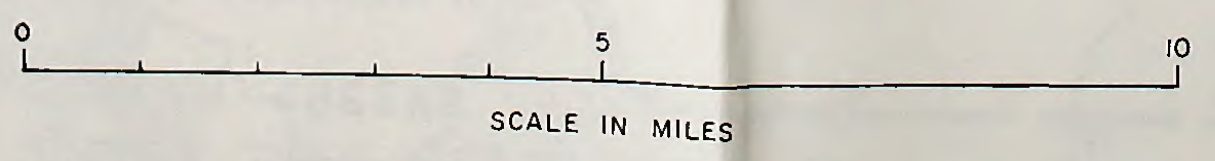
Transfer to
the U.S.F.S.

Transfer to
the U.S.F.S.

MANAGEMENT

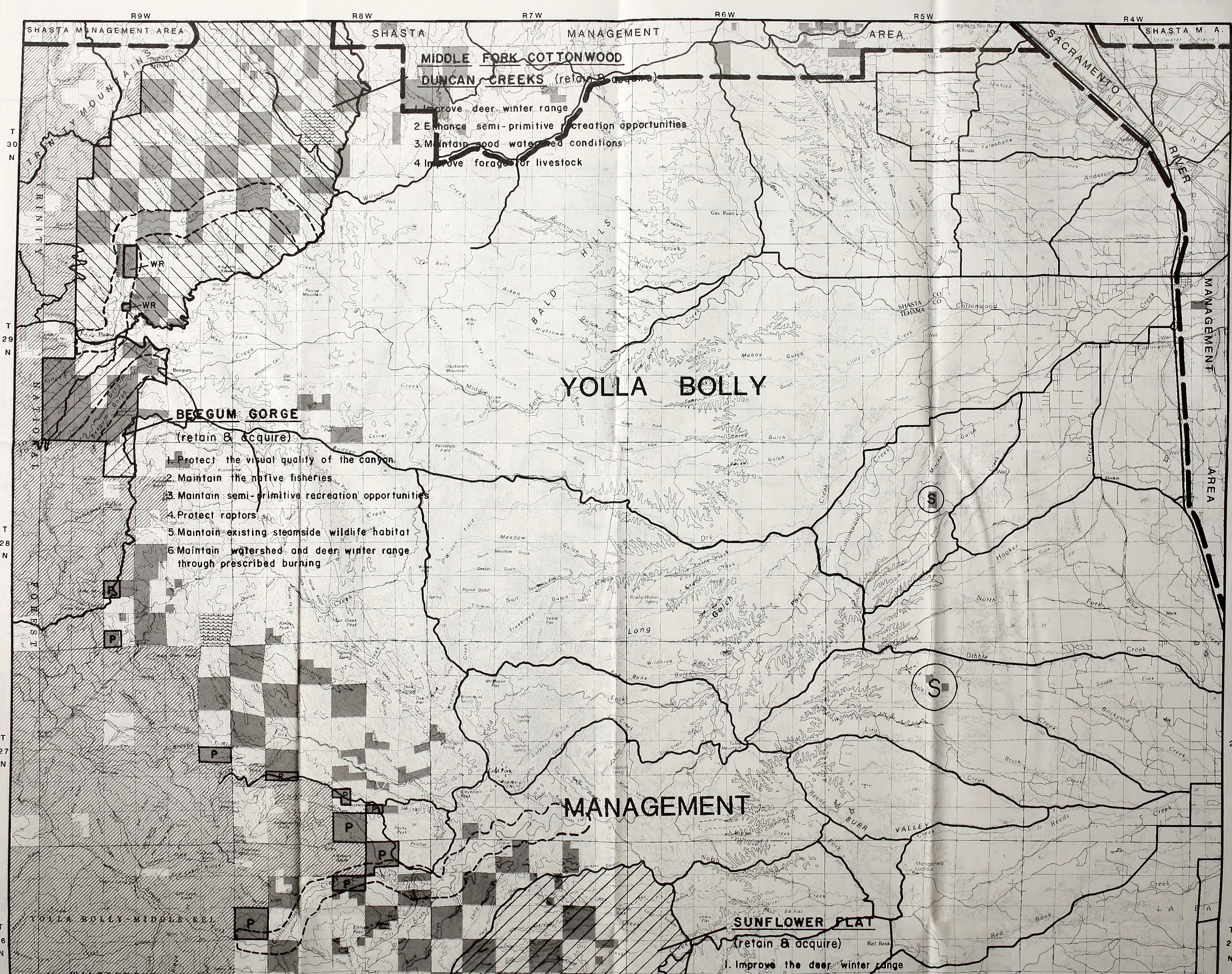


- LEGEND**
- P** Transfer to another agency
 - S** Available for disposal via exchange or sale
 - WR** Withdrawal to be revoked or classification to be terminated
 - Wild and Scenic River corridor
 - Public Land (BLM)
 - National Forest
 - State of California



YOLLA BOLLY MANAGEMENT AREA ADMINISTRATIVE ADJUSTMENT PROPOSED ACTION

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MIDDLE FORK COTTONWOOD

DUNCAN CREEKS (retain & acquire)

1. Improve deer winter range
2. Enhance semi-primitive recreation opportunities
3. Maintain good watershed conditions
4. Improve forage for livestock

BEEGUM GORGE

(retain & acquire)

1. Protect the visual quality of the canyon
2. Maintain the native fisheries
3. Maintain semi-primitive recreation opportunities
4. Protect raptors
5. Maintain existing streamside wildlife habitat
6. Maintain watershed and deer winter range through prescribed burning

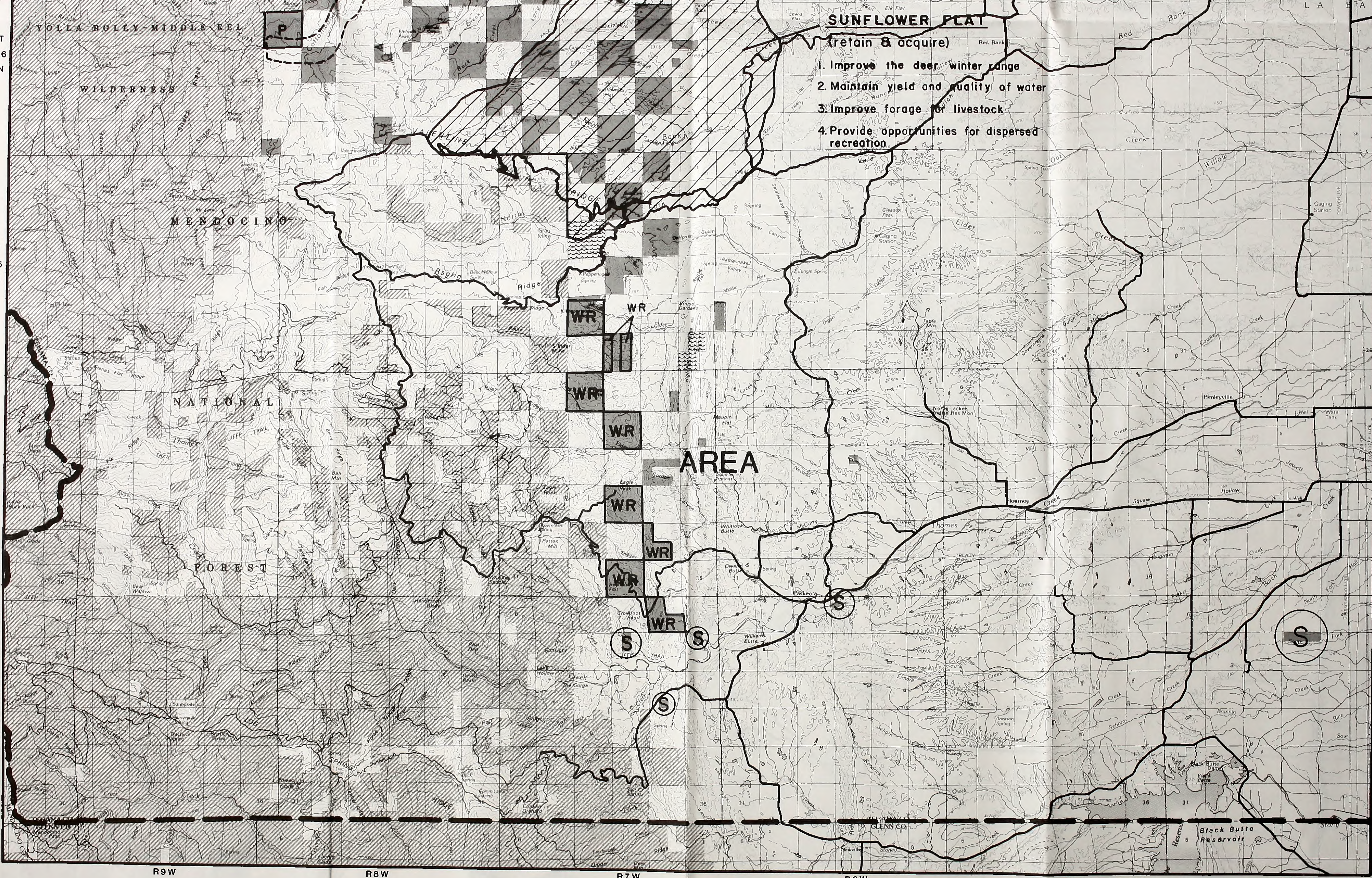
YOLLA BOLLY

MANAGEMENT

SUNFLOWER FLAT

(retain & acquire)

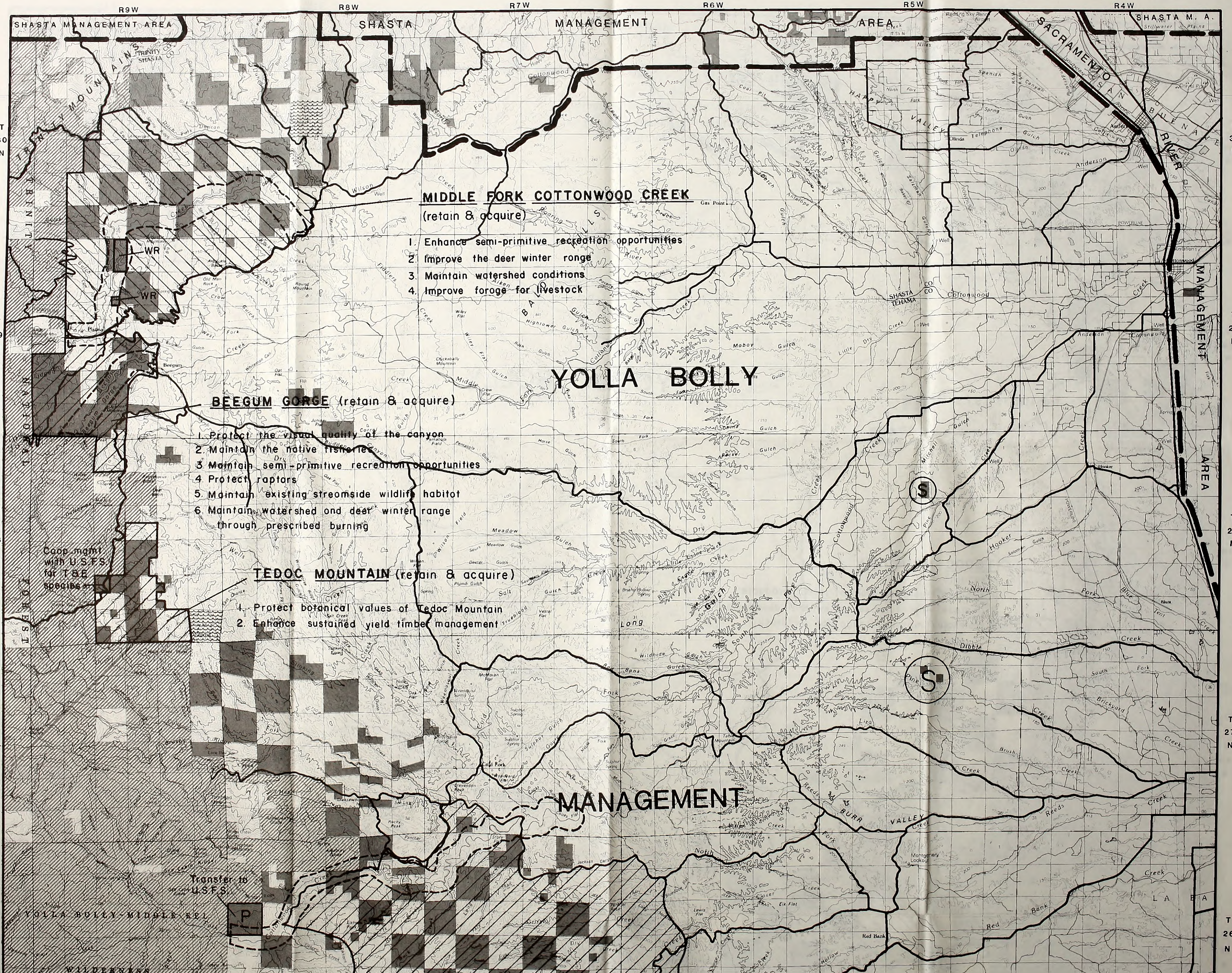
1. Improve the deer winter range
2. Maintain yield and quality of water



- SUNFLOWER FLAT**
(retain & acquire)
1. Improve the deer winter range
 2. Maintain yield and quality of water
 3. Improve forage for livestock
 4. Provide opportunities for dispersed recreation

- LEGEND**
- P** Transfer to another agency
 - S** Available for disposal via exchange or sale
 - WR** Withdrawal to be revoked or classification to be terminated
 - Wild and Scenic River corridor
 - Public Land (BLM)
 - ▨** National Forest
 - ▤** State of California

**YOLLA BOLLY
MANAGEMENT AREA
ENHANCEMENT OF NATURAL
AND
CULTURAL VALUES**



MIDDLE FORK COTTONWOOD CREEK

(retain & acquire)

1. Enhance semi-primitive recreation opportunities
2. Improve the deer winter range
3. Maintain watershed conditions
4. Improve forage for livestock

BEEGUM GORGE

(retain & acquire)

1. Protect the visual quality of the canyon
2. Maintain the native fisheries
3. Maintain semi-primitive recreation opportunities
4. Protect raptors
5. Maintain existing streamside wildlife habitat
6. Maintain watershed and deer winter range through prescribed burning

TEDOC MOUNTAIN

(retain & acquire)

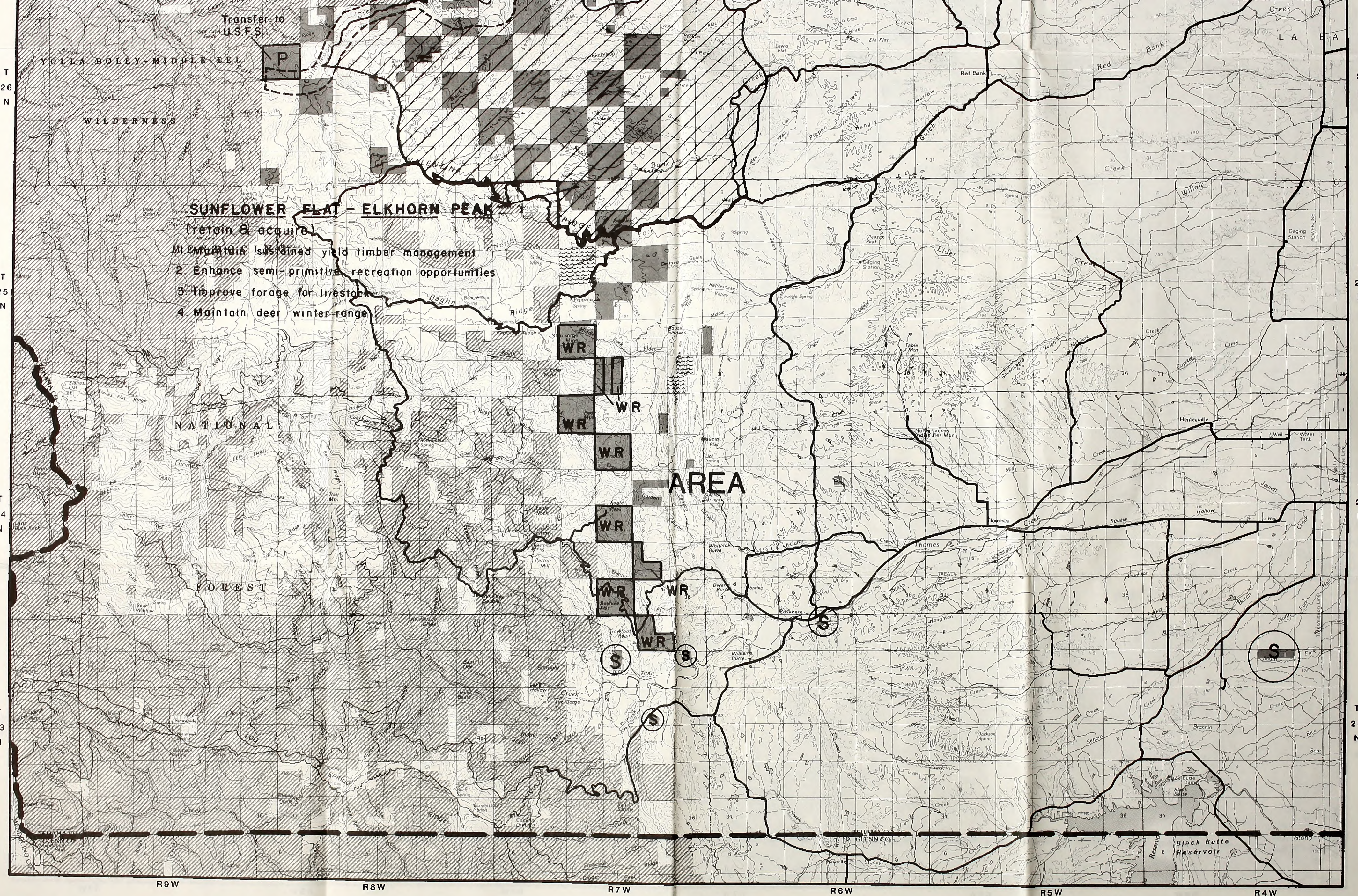
1. Protect botanical values of Tedoc Mountain
2. Enhance sustained yield timber management

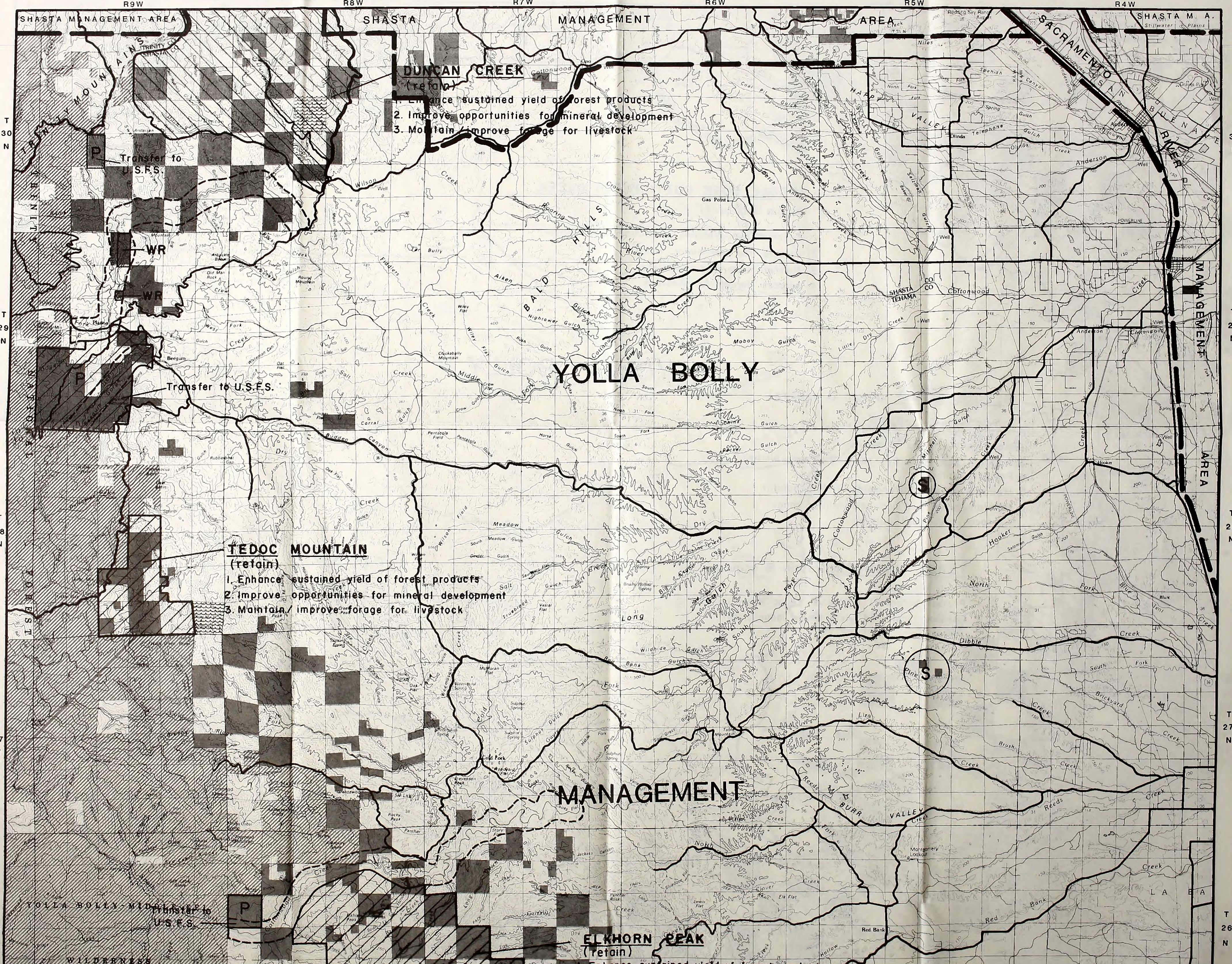
Coop. mgmt.
with U.S.F.S.
for T&E
species

Transfer to
U.S.F.S.

YOLLA BOLLY-MIDDLE FORK

WILDERNESS





DUNCAN CREEK
(retain)

- 1. Enhance sustained yield of forest products
- 2. Improve opportunities for mineral development
- 3. Maintain/improve forage for livestock

Transfer to
U.S.F.S.

WR

WR

Transfer to U.S.F.S.

TEDOC MOUNTAIN
(retain)

- 1. Enhance sustained yield of forest products
- 2. Improve opportunities for mineral development
- 3. Maintain/improve forage for livestock

YOLLA BOLLY

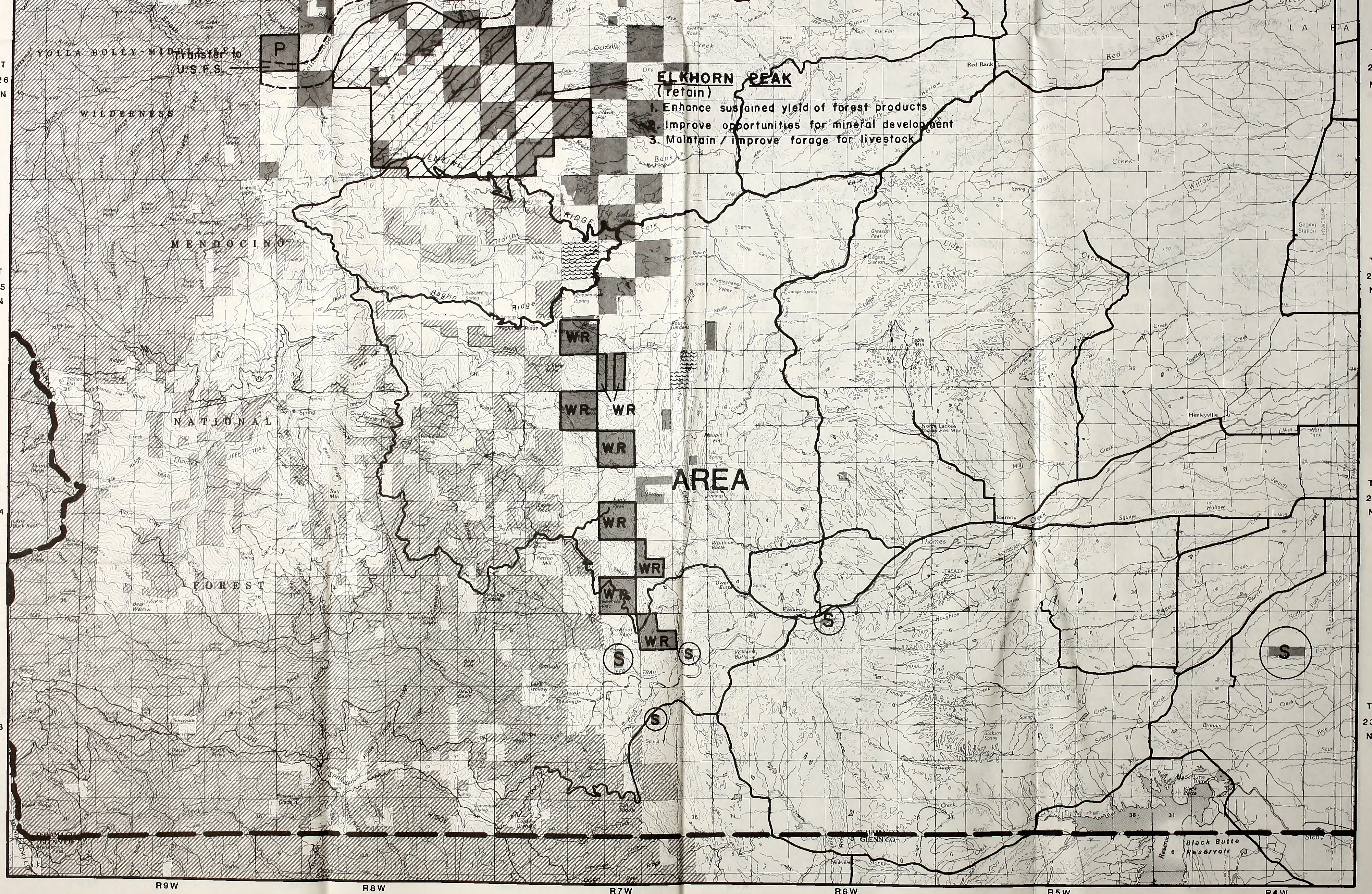
MANAGEMENT

ELKHORN PEAK
(retain)

- 1. Enhance sustained yield of forest products

Transfer to
U.S.F.S.

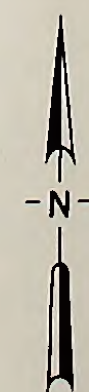
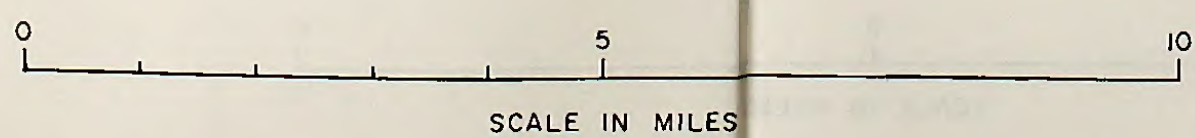
WILDERNESS



LEGEND

- P Transfer to another agency
- S Available for disposal via exchange or sale
- WR Withdrawal to be revoked or classification to be terminated

- Wild and Scenic River corridor
- Public Land (BLM)
- National Forest
- State of California

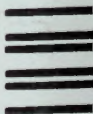


YOLLA BOLLY
MANAGEMENT AREA
RESOURCE USE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
REDDING RESOURCE AREA
355 HEMSTED DRIVE
REDDING, CA 96002

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PENALTY FOR PRIVATE USE, \$300

SPECIAL FOURTH CLASS



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